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FINAL SITE INVESTIGATION REPORT FOR STUDY AREA 55 WITH TRANSMITTAL LETTER  
NTC ORLANDO FL  
6/14/2004  
TETRA TECH



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0604-E092

June 14, 2004

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Naval Facilities Engineering Command  
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Reference: CLEAN Contract No. N62467-94-D-0888  
Contract Task Order No. 0281

Subject: Final Site Investigation Report, Study Area 55  
Naval Training Center, Orlando, Florida

Dear Ms. Nwokike:

Enclosed is the Final Site Investigation Report for Study Area 55 in hardcopy and CD formats. The report includes revisions based on the completion of the soil excavation by CH2M Hill in February 2004.

If you have any questions, please contact me at (865) 220-4730.

Sincerely,

Steven B. McCoy, P.E.  
Task Order Manager

SBM:tko

Enclosure

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Ms. Hope Oaks, Southern Division (hardcopy and CD)  
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# **SITE INVESTIGATION REPORT**

for

## **STUDY AREA 55**

**Naval Training Center**  
Orlando, Florida



**Southern Division**  
**Naval Facilities Engineering Command**  
**Contract Number N62467-94-D-0888**  
**Contract Task Order 0281**

June 2004

SITE INVESTIGATION REPORT  
FOR  
STUDY AREA 55

NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

COMPREHENSIVE LONG-TERM  
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:

Department of the Navy, Southern Division  
Naval Facilities Engineering Command  
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North Charleston, South Carolina 29406

Submitted by:


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CONTRACT NO. N62467-94-D-0888  
CONTRACT TASK ORDER 0281

JUNE 2004

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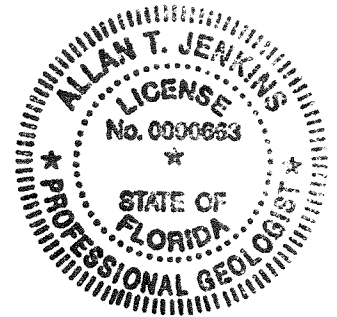


## PROFESSIONAL GEOLOGIST CERTIFICATION

I hereby certify that this document *Site Investigation Report for Study Area 55, Naval Training Center, Orlando, Florida*, was prepared under my direct supervision in accordance with acceptable standards of geological practice.

Allan Jenkins 6/15/04

Allan Jenkins, P.G. / Date  
License No. PG-0000663



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## ACRONYMS

ABB-ES	ABB Environmental Services, Inc.
BAP	Benzo(a)pyrene
bgs	below ground surface
CH2M Hill	CH2M Hill Constructors, Inc.
CLP	Contract Laboratory Program
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
EPC	exposure point concentration
FDEP	Florida Department of Environmental Protection
GCTL	Groundwater Cleanup Target Level
HLA	Harding Lawson Associates
IA	immunoassay
IRA	interim remedial action
µg/kg	micrograms per kilogram
mg/kg	milligrams per kilogram
MS/MSD	matrix spike/matrix spike duplicate
NFESC	Naval Facilities Engineering Services Center
NTC	Naval Training Center
OPT	Orlando Partnering Team
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
SA	Study Area
SCTL	Soil Cleanup Target Level
SOUTHDIV	Southern Division, Naval Facilities Engineering Command
TAL	Target Analyte List
TCL	Target Compound List
TEF	toxicity equivalence factor
TtNUS	Tetra Tech NUS, Inc.
UCL	upper confidence limit
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency

## EXECUTIVE SUMMARY

An environmental site investigation was performed at Study Area (SA) 55, located in Area C of the former Naval Training Center (NTC) Orlando. The site investigation was performed between April and July 2003. The objectives of the investigation were to delineate the extent of polynuclear aromatic hydrocarbons (PAHs) in the soil at concentrations exceeding the State of Florida cleanup criteria and determine the volume of soil to be excavated and replaced to meet the requirements for residential use. The scope of the investigation was based on the results of previous investigations that identified concentrations of PAHs and arsenic exceeding the Florida residential Soil Cleanup Target Levels (SCTLs).

### **Study Area Description**

SA 55 is part of Area C, NTC Orlando, Florida and includes Building 1104 and the surrounding grassy and asphalt areas. Building 1104 is 12 feet by 12 feet and is constructed of painted cinderblock on a sealed concrete slab with a 6-in. high continuous curb around the perimeter of the floor. The north side of the building abuts the asphalt-paved parking area south of Sea Bee Street. The areas adjacent to the south, east, and west sides of the building are maintained lawn.

According to personnel interviewed during the site screening drums, were stored north of Building 1104 on pallets on the asphalt paved area [ABB Environmental Services (ABB-ES), 1994]. Storage practices, specifically the storage of drums containing non-PCB laden oil outside of Building 1104, were described in the base outfall survey [Harding Lawson Associates (HLA) 1999]. There are no documented spills associated with storage operations at this facility (HLA 1999).

### **Soil Sampling**

The Navy directed HLA to perform an environmental site screening investigation in 1999. The investigation employed a combination of semiquantitative immunoassay field tests and submission of selected soil samples to an off-site laboratory. Although the samples exceeded the residential SCTLs for arsenic and PAHs, the industrial SCTLs were not exceeded. The current intended reuse is residential, however, at the time the *Base Realignment and Closure (BRAC) Environmental Site Screening Report, Study Area 55, Naval Training Center Orlando, Florida* (HLA 1999) was issued, SA 55's intended reuse was industrial.

To define the extent of PAH and arsenic contamination in the surface soil, the Navy directed TtNUS to perform a site investigation. TtNUS performed surface soil sampling between April and July 2003. None of the 21 samples analyzed for arsenic were at concentrations exceeding the residential SCTL

[0.8 (milligrams per kilogram) mg/kg]. Benzo(a)pyrene (BAP) exceeded the residential SCTL of 100 micrograms per kilogram ( $\mu\text{g/kg}$ ) at 49 sample locations with exceedance concentrations ranging from 101  $\mu\text{g/kg}$  to 5,210  $\mu\text{g/kg}$ . At five sample locations dibenzo(a,h)anthracene and at two sample locations benzo(a)anthracene, benzo(b)fluoranthene and indeno(1,2,3-cd)pyrene were detected at concentrations exceeding their respective residential SCTLs.

Two subsurface soil samples were collected and analyzed for PAHs to investigate potential vertical migration of contamination. These samples were collected beneath locations of high surface soil contamination. Chemical concentrations in these samples did not exceed their respective residential SCTLs.

### **95 Percent Upper Confidence Limit**

After the total BAP equivalent concentration was calculated for each sample location, a 95 percent upper confidence limit (UCL) was determined for SA 55. The calculated 95 percent UCL for BAP (410  $\mu\text{g/kg}$ ) was selected as the exposure point concentration (EPC) and compared to the residential SCTL (100  $\mu\text{g/kg}$ ). Because the EPC exceeded the SCTL, it was determined that further action was needed to address carcinogenic polynuclear aromatic hydrocarbons (cPAHs) at SA 55.

Per Orlando Partnering Team recommendations, soil sample locations having a total BAP equivalent concentration exceeding three times the residential SCTL for BAP (300  $\mu\text{g/kg}$ ) were marked for excavation. It was assumed that after the excavation these areas would be clean and BAP equivalent concentrations at these locations were replaced with non-detect values. It was determined that the recalculated 95 percent UCL for the total BAP equivalent concentrations would not exceed the residential SCTL of 100  $\mu\text{g/kg}$  after excavation.

### **Soil Removal**

In February 2004, CH2M Hill Contractors, Inc. excavated all contaminated surface soil areas that exceeded 300  $\mu\text{g/kg}$  total BAP equivalent concentrations. The soil was excavated to a depth of 2 feet and replaced with clean fill to remediate the contaminated areas. A total of approximately 372 tons was removed and transported to the Waste Management Okeechobee Landfill (Subtitle D) for proper disposal as non-hazardous waste.

### **Conclusions and Recommendations**

The extent of PAH contamination in the surface soil exceeding the residential SCTLs was delineated at SA 55. The excavation and offsite disposal of soil having a BAP equivalent exceeding three times the residential SCTL for BAP (300 µg/kg) has mitigated the PAH-contaminated surface soils to levels compatible with future residential use.

## **1.0 INTRODUCTION**

An environmental site investigation was performed at Study Area (SA) 55, located in Area C of the former Naval Training Center (NTC) Orlando. Tetra Tech NUS, Inc. (TtNUS), under contract to the Department of the Navy, Southern Division, Naval Facilities Engineering Command (SOUTHDIV), performed the site investigation in six phases between April and July 2003. The technical approach to the investigation was developed in conjunction with the Orlando Partnering Team (OPT), which includes representatives from the Florida Department of Environmental Protection (FDEP), the U. S. Environmental Protection Agency (USEPA) Region 4, and SOUTHDIV and their contractors. This report presents a description of the fieldwork performed, a discussion of the results, and the conclusions and recommendations.

### **1.1 SITE DESCRIPTION**

SA 55 is part of Area C, NTC Orlando, Florida and includes Building 1104 and the surrounding grassy and asphalt areas (Figures 1-1 and 1-2). Building 1104 was constructed in 1982 for storage of polychlorinated biphenyl (PCB)-laden oil and other waste and hazardous materials. Building 1104 is 12 feet by 12 feet and is constructed of painted cinderblock on a sealed concrete slab with a 6 inch high continuous curb around the perimeter of the floor. The north side of the building abuts the asphalt-paved parking area south of Sea Bee Street. The areas adjacent to the south, east, and west sides of the building are maintained lawn.

According to personnel interviewed during the site screening drums were stored north of Building 1104 on pallets on the asphalt paved area [ABB Environmental Services, Inc. (ABB-ES), 1994]. Storage practices, specifically the storage of drums containing non-PCB laden oil outside of Building 1104, were sited in the base outfall survey [Harding Lawson Associates (HLA), 1999]. There are no documented spills associated with storage operations at this facility (HLA 1999).

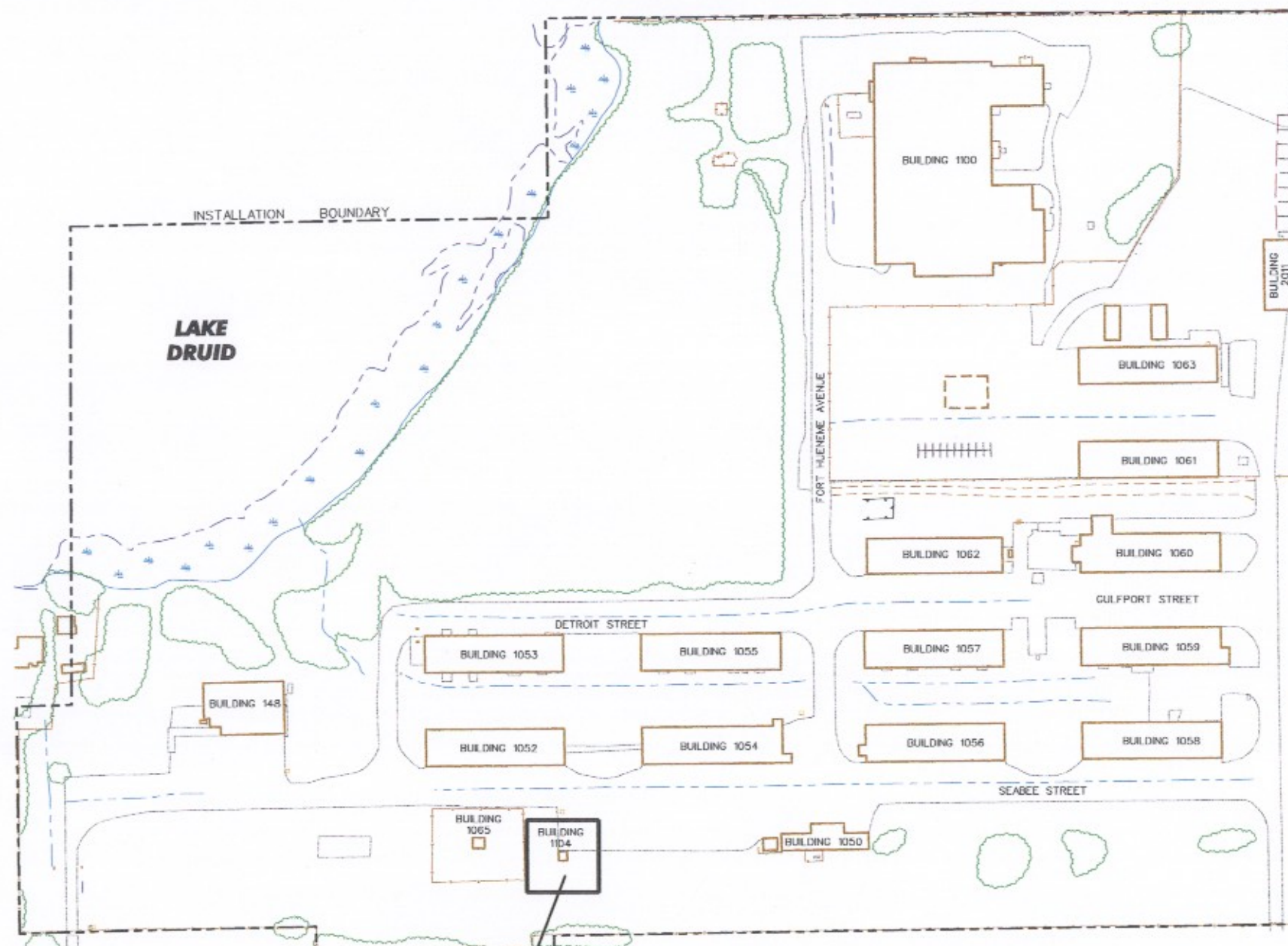
### **1.2 SITE BACKGROUND**

The *Soil Survey of Orange County, Florida* [U.S. Department of Agriculture (USDA), 1989] shows that SA 55 is located within the Smyrna-Urban land complex soil unit. These soils are described as nearly level and poorly drained. Smyrna-Urban land soils are typically found on the flatwoods with slopes less than 2 percent. This map unit consists of about 53 percent Smyrna soil and about 40 percent Urban land. Typically, the thickness of the Smyrna soil is 80 inches or more and consists of fine sand. The Urban land part of this complex is covered by concrete, asphalt, buildings, or other impervious surfaces that obscure or alter the soils so that their identification is not feasible.



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SOURCE:  
ROADS, BUILDINGS, ETC. ARE FROM A PHOTOGRAMMETRIC  
SURVEY BY DEMAPS, INC. AND REPS, INC. IN 1997.



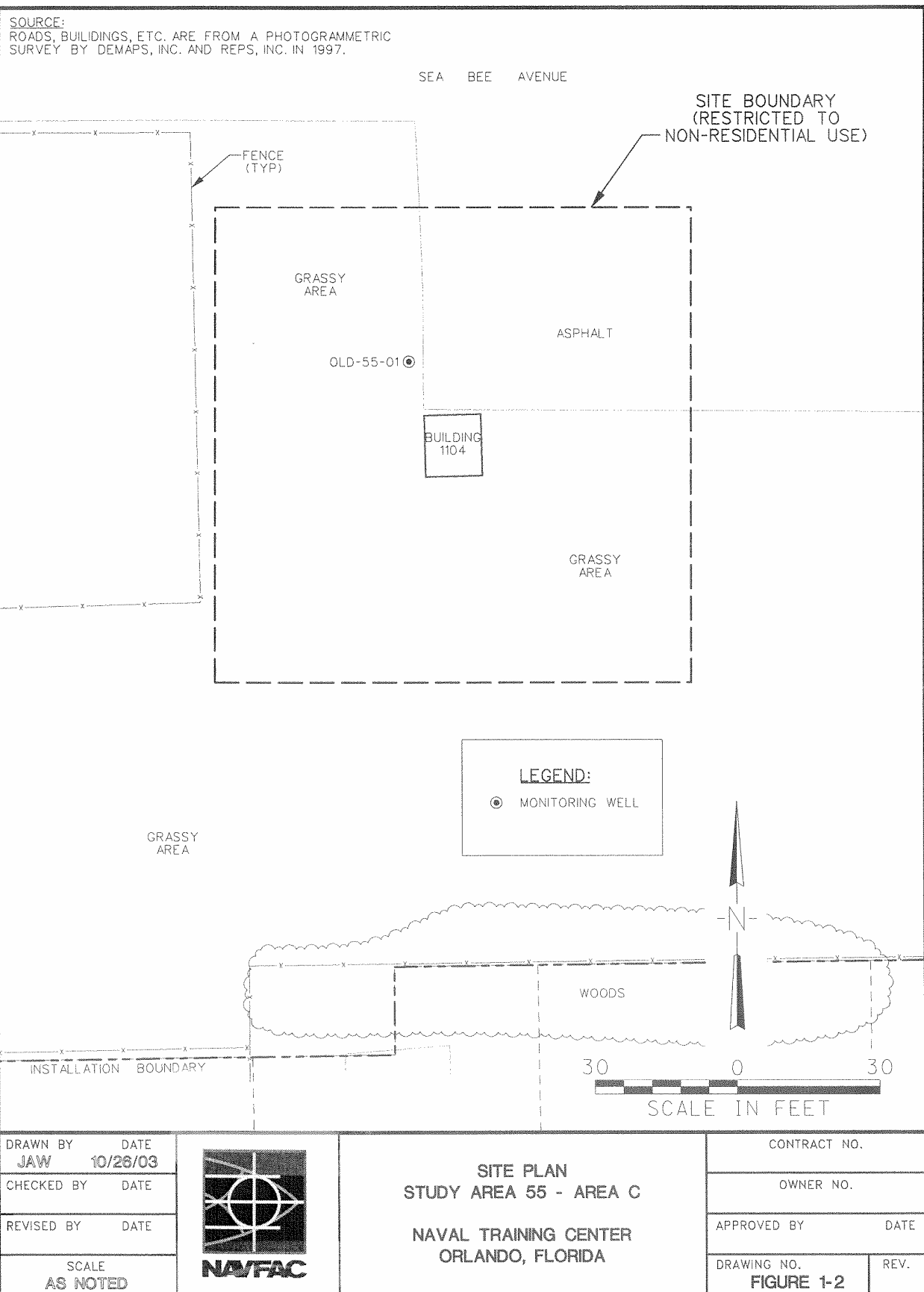
STUDY AREA 55

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SITE LOCATION MAP  
STUDY AREA 55 - AREA C  
NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

CONTRACT NO.	
OWNER NO.	
APPROVED BY	DATE
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## ENVIRONMENTAL ACTIONS

The environmental activities related to SA 55 are summarized in Table 1-1. The site screening investigation was performed by HLA in 1998. Following the 2003 site investigation fieldwork documented in this report, CH2M Hill Constructors, Inc. (CH2M Hill) performed an Interim Remedial Action (IRA) consisting of soil removal to remediate polynuclear aromatic hydrocarbon (PAH) contamination exceeding the Florida residential soil cleanup target levels (SCTLs).

**TABLE 1-1**  
**CHRONOLOGICAL SUMMARY OF ENVIRONMENTAL ACTIVITIES**  
**STUDY AREA 55**  
**NAVAL TRAINING CENTER**  
**ORLANDO, FLORIDA**

August 1998	Site screening issued by HLA included installing one monitoring well and collective soil samples.
January 1999	FDEP issued letter concurring with the OPT that no further investigation was required and that the area was eligible for transfer for industrial/commercial use.
April through July 2003	Site investigation was performed by TtNUS (soil sampling to delineate PAH contamination)
February 2004	372 tons of contaminated soil were removed to remediate the site to residential cleanup criteria (CH2M HILL 2004).

## **2.0 PREVIOUS INVESTIGATIONS**

### **2.1 SITE SCREENING INVESTIGATION**

The site screening investigation was conducted to evaluate environmental media that may have been exposed to hazardous material released during past activities at the site. Past site practices and current site conditions were used to determine sampling locations. The primary area of interest was the lawn area around Building 1104 which could potentially have received spills or runoff from the storage areas near the building, from inside the building where various materials were stored, and/or from the paved area north of the building, which was also used for storage. Site screening activities were conducted by HLA between August 11 and 12, 1998 and the results are documented in the *Base Realignment and Closure (BRAC) Environmental Baseline Survey Report, Naval Training Center, Orlando, Florida* (HLA 1999).

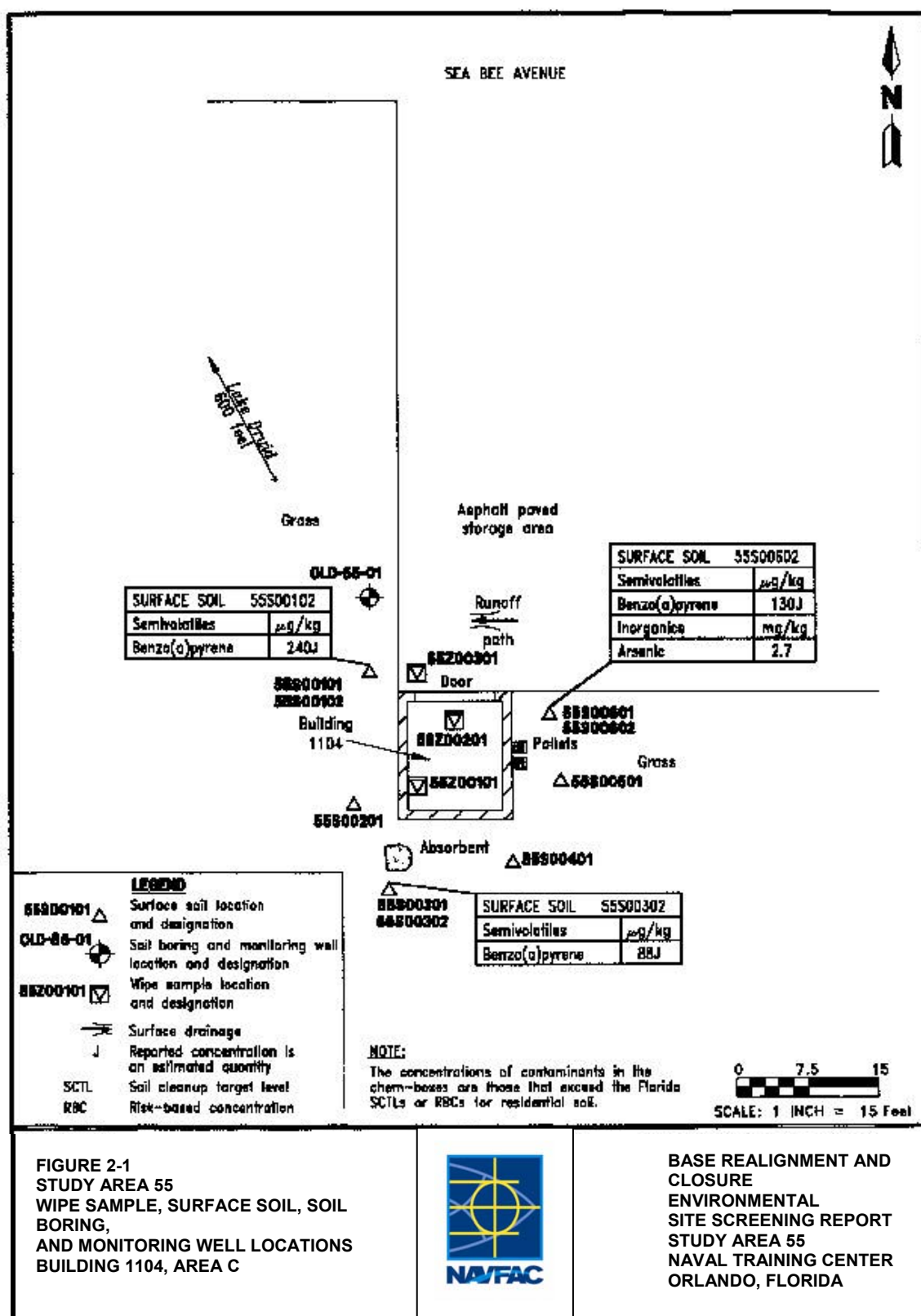
#### **2.1.1 Surface Soil Sampling**

To investigate the potential for surface soil contamination, six surface soil samples (two each on the west, south, and east sides of Building 1104) were collected from the grassy area adjacent to the building (Figure 2-1). Surface soil samples were collected from 0 to 1 foot below ground surface (bgs). Samples were field screened for total PCBs with immunoassay (IA) field kits using USEPA Method 4020. PCBs were not found to be a contaminant of concern in the soils at SA 55.

Three of the six samples were submitted to an approved laboratory (one each from the northwest, northeast, and southwest corners of the Building 1104) and analyzed for full suite Contract Laboratory Program (CLP) target analyte list (TAL) and target compound list (TCL) analysis plus pesticides and PCBs. Arsenic was detected in all three surface soil samples (55S00102, 55S00302, and 55S00602) at concentrations of 0.96 B, 0.97 B, and 2.7 milligrams per kilogram (mg/kg), respectively. The residential SCTL for soil is 0.8 mg/kg for arsenic, and the established background screening criteria for NTC Orlando is 1 mg/kg. Benzo(a)pyrene (BAP) was detected in all three surface soil samples (55S00102, 55S00302, and 55S00602) at concentrations of 240J, 88J, and 130J mg/kg respectively (Figure 2-1).

#### **2.1.2 Groundwater**

One shallow monitoring well, OLD-55-01, was installed to the northwest of Building 1104 during site screening activities (Figure 2-1). The well was surmised to be downgradient of Building 1104 based on assumed shallow groundwater flow towards Lake Druid. A groundwater sample was collected using the



low-flow sampling method. The groundwater sample was submitted to an approved laboratory for full suite CLP TAL and TCL analysis plus pesticides and PCBs. No analytes were detected at concentrations exceeding their respective Florida groundwater cleanup target levels (GCTLs).

### **2.1.3            Surface Wipe Sampling**

Two concrete floor surface wipe samples were collected from inside Building 1104. One surface wipe sample was collected from the asphalt in front of the loading door on the north side of the building in the path of surface runoff. PCB concentrations were below the laboratory detection limits in the wipe samples collected at SA 55.

### 3.0 SITE INVESTIGATION METHODOLOGY

TtNUS conducted a site investigation at SA 55 beginning in April 2003 and concluding in July 2003 to determine the nature and extent of PAH contamination near locations 55S00102, 55S00602, and 55S00302. The objectives of this investigation were to:

- Collect surface soil samples in the grassy areas located west, south, and east of Building 1104.
- Submit the samples to an approved off-site, fixed-base laboratory for PAH analysis by USEPA SW-846 Method 8310.
- Use the analytical data to determine the extent of the PAH exceedances and the quantity of soil to be removed from the study area to meet the requirements for residential reuse.

All work was performed in accordance with Appendix D of the *Work Plan for Soil Sampling, Naval Training Center, Orlando, Florida* (TtNUS, 2003). This work plan defined the site-specific activities performed and was consistent with the guidance detailed in the *Project Operations Plan for Site Investigations and Remedial Investigations, Naval Training Center, Orlando, Florida [POP]* (ABB-ES, 1997). Health and safety aspects of the work at SA 55 were controlled in accordance with the *Health and Safety Plan for Completion of Investigation Work and Data Sampling, Naval Training Center, Orlando, Florida* (TtNUS, 2001).

#### 3.1 Soil Sampling

A total of 89 surface soil samples were collected and analyzed in six phases between April and July 2003 (Figure 3-1). All 89 surface soil samples were analyzed for PAHs, while only 21 surface soil samples were analyzed for arsenic. The samples were collected from 0 to 2 feet bgs with hand augers, placed in 4-ounce sample jars, and transported on ice to an off-site analytical laboratory. Two subsurface soil samples (NTC55U10003 and NTC55U10103) were collected and analyzed for PAHs from 2 to 3 feet bgs to investigate potential vertical migration of contamination to the subsoil.

##### 3.1.1 Sample Numbering

Soil samples collected during the investigation were numbered as follows:

NTC55SNNDD

Where: NTC = Naval Training Center  
55 = two-digit SA designation (55)

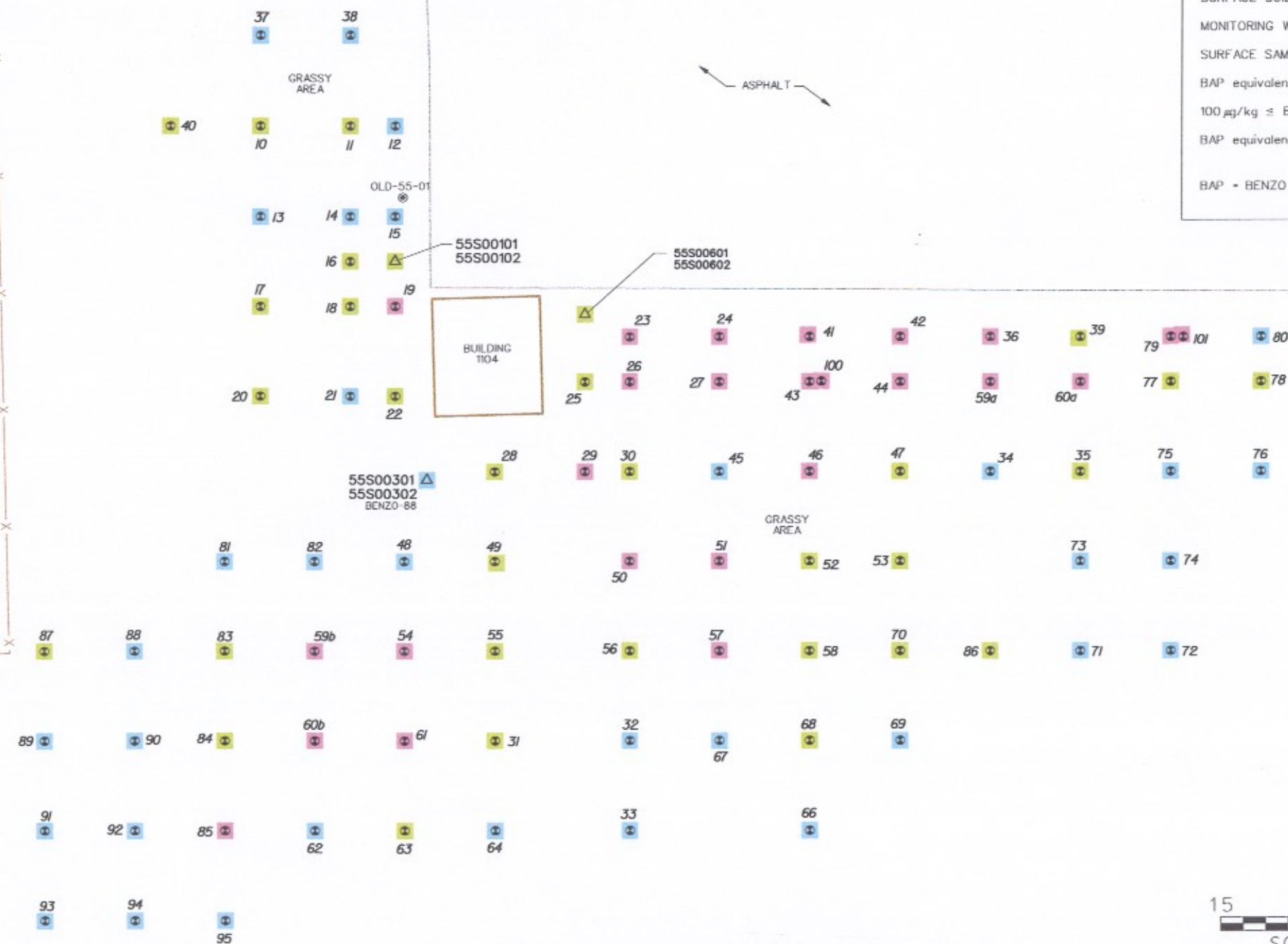


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LOCATION	DATE SAMPLED
10-19	APRIL 7, 2003
20-30	APRIL 8, 2003
31-60A	MAY 3, 2003
59B-64, 66-80	JUNE 12, 2003
81-86, 100, 101	JULY 10, 2003
87-95	JULY 24, 2003

# LEGEND

- SURFACE SOIL SAMPLE (AUGUST 1998)
- MONITORING WELL
- SURFACE SAMPLE LOCATION
- BAP equivalent  $\geq 300 \mu\text{g/kg}$
- $100 \mu\text{g/kg} \leq \text{BAP equivalent} < 300 \mu\text{g/kg}$
- BAP equivalent  $< 100 \mu\text{g/kg}$
- BAP = BENZO (A) PYRENE



SOURCE:  
ROADS, BUILDINGS, ETC. ARE FROM A PHOTOGRAMMETRIC  
SURVEY BY DEMAPS, INC. AND REPS, INC. IN 1997.

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REVISD BY	DATE
SCALE	AS NOTED



SURFACE SOIL SAMPLING LOCATIONS  
STUDY AREA 55 - AREA C

NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

CONTRACT NO.

OWNER NO.

APPROVED BY DATE

DRAWING NO. FIGURE 3-1 REV.



S = sample type ("S" for surface soil, "D" for duplicate)  
NNN = location number (e.g., 010)  
DD = sample depth (e.g., 02)

For example, a sample collected at the 10<sup>th</sup> soil location at the 0 to 2 foot depth was designated NTC55S01002. Samples for field duplicates were identified with a "blind" number (e.g., NTC55D1000). The "blind" number replaced the location number and sample depth. The corresponding environmental sample was noted in the logbook. The soil sample number NNN for this event started with sample location 010.

### **3.1.2 Quality Control Samples**

Quality control samples were collected at the frequencies listed below:

- One field duplicate per 10 environmental samples.
- One matrix spike/matrix spike duplicate (MS/MSD) per 20 environmental samples.

"MS/MSD" was added to the sample number on the sample labels and the chain of custody form. New sample numbers were not created for these samples.

### **3.1.3 Laboratory Analysis and Data Validation**

The samples were analyzed for PAHs using USEPA Method 8310 and/or arsenic using USEPA Method 8310. Validation of the data was performed using the following guidance documents:

- *USEPA Contract Laboratory Program Functional Guidelines for Organic Data Review* (USEPA, 1999).
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, 1994).
- Naval Facilities Engineering Service Center (NFESC) guidelines *Navy Installation Restoration Chemical Data Quality Manual* (NFESC, 1999).

The data validation evaluated data completeness, holding time compliance, calibration compliance, laboratory blank contamination, surrogate spike recovery, matrix spike recovery, blank spike recovery, internal standard response, sample quantitation, and detection limits.

## **4.0 INVESTIGATION RESULTS**

The results of the Site Investigation performed by TtNUS are described in this section. The data validation performed for the surface soil samples analyzed during the investigation did not identify any significant issues regarding the data quality.

### **4.1 SOIL SAMPLING RESULTS**

TtNUS collected 89 and 21 surface soil samples for analyses of PAHs and arsenic, respectively, at SA 55. None of the 21 samples (NTC55S01002 through NTC55S03002) analyzed for arsenic were at concentrations that exceeded the residential SCTL of 0.8 mg/kg (Table 4-1). The concentrations of arsenic ranged from 0.29 to 0.66 mg/kg. BAP exceeded the residential SCTL of 100 micrograms per kilogram ( $\mu\text{g/kg}$ ) at 49 sample locations with exceedance concentrations ranging from 101  $\mu\text{g/kg}$  to 5,210  $\mu\text{g/kg}$  (Figure 4-1). Six sample locations exceeded the dibenzo(a,h)anthracene residential SCTL of 100  $\mu\text{g/kg}$  with concentrations ranging from 111  $\mu\text{g/kg}$  to 1,110  $\mu\text{g/kg}$ . Benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene at two sample locations (NTC55S04302 and NTC55S07902) exceeded their residential SCTLs of 1,400  $\mu\text{g/kg}$ , 1,400  $\mu\text{g/kg}$ , and 1,500  $\mu\text{g/kg}$ , respectively. Chemical concentrations in the two subsurface samples (NTC55U10003 and NTC55U10103) did not exceed their respective residential SCTLs. Because these subsurface soil samples were collected in areas of elevated surface soil contamination the relatively low concentration of PAHs in these samples provides good evidence that only the surface soil was impacted at the site.

### **4.2 95 PERCENT UPPER CONFIDENCE LIMIT (UCL)**

The exposure point concentration (EPC) of a chemical in an environmental medium is the concentration of that chemical that a receptor would be exposed to over an entire site, or exposure unit. Ideally the EPC should be the true average concentration within the exposure unit for the medium. However, because of the uncertainty associated with estimating the true average concentration at a site, the 95 Upper Confidence Limit (UCL) of the arithmetic mean is selected as the EPC.

Before 95 percent UCL calculations were performed, a BAP equivalent concentration was determined. For the family of carcinogenic polycyclic aromatic hydrocarbons (cPAHs), a BAP equivalent concentration was determined for each sample location by multiplying the concentration of each cPAH by the appropriate toxicity equivalence factor (TEF) and summing these values (Table 4-2). While BAP has been well studied, insufficient data are available to calculate cancer-risk slope factors for the

TABLE 4-1  
SOIL ANALYTICAL DETECTS  
STUDY AREA 55  
  
NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

PAGE 1 OF 11

Soil Location	CAS No.	SCTL (Residential)	10	11	12	13	14	15	16
Sample ID			NTC55S01002	NTC55S01102	NTC55S01202	NTC55S01302	NTC55S01402	NTC55S01502	NTC55S01602
Sample Date			4/7/03	4/7/03	4/7/03	4/7/03	4/7/03	4/7/03	4/7/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8	0.29		0.44	0.66		0.32	0.44
PAH (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000							
2-Methylnaphthalene	91-57-6	83,000							
Benzo(a)anthracene	56-55-3	1,400	86						
Benzo(a)pyrene	50-32-8	100	114	139	62.4 J	38.9 J	57.5 J	40.2 J	104 J
Benzo(b)fluoranthene	205-99-2	1,400	88.5	128	79	35.8 J	52.7 J	39.3 J	71 J
Benzo(g,h,i)perylene	191-24-2	2,300,000	179	202	76.5	46.2 J	73.9	61.3 J	124 J
Benzo(k)fluoranthene	207-08-9	15,000	74.8	122	64.6 J	26.5 J	34.6 J	38.3 J	56.6 J
Chrysene	218-01-9	140,000							
Dibenzo(a,h)anthracene	53-70-3	100							
Fluoranthene	206-44-0	2,900,000	130 J	166 J	104 J				94.5 J
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	102	116	55.8 J	41.2 J	53 J	49 J	77.9 J
Naphthalene	91-20-3	40,000							
Phenanthrene	85-01-8	2,000,000							
Pyrene	129-00-0	2,200,000	154 J	202 J	95.6 J				107 J

TABLE 4-1  
SOIL ANALYTICAL DETECTS  
STUDY AREA 55

NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Soil Location	CAS No.	SCTL (Residential)	16	17	18	19	20	21	22
Sample ID			NTC55S01602-D	NTC55S01702	NTC55S01802	NTC55S01902	NTC55S02002	NTC55S02102	NTC55S02202
Sample Date			4/7/03	4/7/03	4/7/03	4/7/03	4/8/03	4/8/03	4/8/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8			0.38	0.58	0.35		0.29
PAH (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000							
2-Methylnaphthalene	91-57-6	83,000							
Benzo(a)anthracene	56-55-3	1,400							
Benzo(a)pyrene	50-32-8	100	39.9 J	96	93.3	297	95.2	58 J	124
Benzo(b)fluoranthene	205-99-2	1,400	27.9 J	69	86.6	154	81.3	49.8 J	107
Benzo(g,h,i)perylene	191-24-2	2,300,000	53.1 J	106	110	311	86.3	54.9 J	111
Benzo(k)fluoranthene	207-08-9	15,000	33.8 J	67	70 J	128	55.9 J	36 J	72.7
Chrysene	218-01-9	140,000							
Dibenzo(a,h)anthracene	53-70-3	100							
Fluoranthene	206-44-0	2,900,000				133 J			
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	34.9 J	87.1	96.6	171	88	52.2 J	101
Naphthalene	91-20-3	40,000							
Phenanthrene	85-01-8	2,000,000							
Pyrene	129-00-0	2,200,000		93.9 J	98.3 J	179 J			

TABLE 4-1

**SOIL ANALYTICAL DETECTS  
STUDY AREA 55**

**NAVAL TRAINING CENTER  
ORLANDO, FLORIDA**

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Soil Location	CAS No.	SCTL (Residential)	23	24	25	26	27	28	28
Sample ID			NTC55S02302	NTC55S02402	NTC55S02502	NTC55S02602	NTC55S02702	NTC55S02802	NTC55S02802-D
Sample Date			4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8	0.42	0.44	0.57	0.35	0.5	0.52	0.48
PAH (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000							
2-Methylnaphthalene	91-57-6	83,000							
Benzo(a)anthracene	56-55-3	1,400							
Benzo(a)pyrene	50-32-8	100	352	264	187	242	537	180	167
Benzo(b)fluoranthene	205-99-2	1,400	292	214	151	199	429	152	145
Benzo(g,h,i)perylene	191-24-2	2,300,000	295	222	165	225	449	176	160
Benzo(k)fluoranthene	207-08-9	15,000	217	154	111	146	310	115	104
Chrysene	218-01-9	140,000	241 J	200 J			366		
Dibenzo(a,h)anthracene	53-70-3	100					122		
Fluoranthene	206-44-0	2,900,000	226 J	170 J	121 J	140 J	316 J	115 J	115 J
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	275	188	147		379	143	134
Naphthalene	91-20-3	40,000							
Phenanthrene	85-01-8	2,000,000							
Pyrene	129-00-0	2,200,000	244 J	194 J	144 J	152 J	393	141 J	154 J

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TABLE 4-1

**SOIL ANALYTICAL DETECTS  
STUDY AREA 55**

**NAVAL TRAINING CENTER  
ORLANDO, FLORIDA**

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Soil Location	CAS No.	SCTL (Residential)	29	30	31	32	34	35	36
Sample ID			NTC55S02902	NTC55S03002	NTC55S03102	NTC55S03202	NTC55S03402	NTC55S03502	NTC55S03602
Sample Date			4/8/03	4/8/03	5/21/03	5/21/03	5/21/03	5/21/03	5/21/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8	0.57	0.45					
PAH (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000							
2-Methylnaphthalene	91-57-6	83,000							
Benzo(a)anthracene	56-55-3	1,400							316 J
Benzo(a)pyrene	50-32-8	100	256	222	138	30.4 J	74	146	1010
Benzo(b)fluoranthene	205-99-2	1,400	214	177	111	25 J	56.1 J	104	682
Benzo(g,h,i)perylene	191-24-2	2,300,000	233	210	130	30.3 J	66.9	134	721
Benzo(k)fluoranthene	207-08-9	15,000	162	148	73.5	21 J	44.2 J	88.5	491
Chrysene	218-01-9	140,000	186 J		104 J				567
Dibenzo(a,h)anthracene	53-70-3	100			26.5 J			25.2 J	163
Fluoranthene	206-44-0	2,900,000	168 J	115 J	98.9 J				471
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	196	159	125	27.3 J	63.9 J	110	696
Naphthalene	91-20-3	40,000							
Phenanthrene	85-01-8	2,000,000							
Pyrene	129-00-0	2,200,000	190 J	145 J	108 J				531

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TABLE 4-1  
SOIL ANALYTICAL DETECTS  
STUDY AREA 55  
  
NAVAL TRAINING CENTER  
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Soil Location	CAS No.	SCTL (Residential)	37	38	39	40	41	41	42
Sample ID			NTC55S03702	NTC55S03802	NTC55S03902	NTC55S04002	NTC55S04102	NTC55S04102-D	NTC55S04202
Sample Date			5/13/03	5/13/03	5/21/03	5/13/03	5/13/03	5/13/03	5/21/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAH (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000							
2-Methylnaphthalene	91-57-6	83,000							
Benzo(a)anthracene	56-55-3	1,400					176 J	426 J	
Benzo(a)pyrene	50-32-8	100	39.8 J	48.6 J	105	96	576	694	384
Benzo(b)fluoranthene	205-99-2	1,400	34.6 J	43.2 J	67.4	73.2	417	505	285
Benzo(g,h,i)perylene	191-24-2	2,300,000	28.5 J	33.8 J	94.6	88.5	406	436	299
Benzo(k)fluoranthene	207-08-9	15,000	28.3 J	26.8 J	44.6 J	46.9 J	310	344	194
Chrysene	218-01-9	140,000					399	647	231 J
Dibenzo(a,h)anthracene	53-70-3	100				17.3 J	88.2	111	68.6 J
Fluoranthene	206-44-0	2,900,000				99.5 J	342 J	867 J	161 J
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	35.9 J	37.9 J	84.2	77.3	379	425	289
Naphthalene	91-20-3	40,000							
Phenanthrene	85-01-8	2,000,000							
Pyrene	129-00-0	2,200,000					486 J	876 J	210 J

TABLE 4-1  
SOIL ANALYTICAL DETECTS  
STUDY AREA 55  
  
NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Soil Location	CAS No.	SCTL (Residential)	43	44	45	46	47	48	49
Sample ID			NTC55S04302	NTC55S04402	NTC55S04502	NTC55S04602	NTC55S04702	NTC55S04802	NTC55S04902
Sample Date			5/13/03	5/21/03	5/13/03	5/21/03	5/21/03	5/21/03	5/13/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAH (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000							
2-Methylnaphthalene	91-57-6	83,000							
Benzo(a)anthracene	56-55-3	1,400	2030	125 J		128 J			
Benzo(a)pyrene	50-32-8	100	5210	462	33.7 J	708	215	27.8 J	107
Benzo(b)fluoranthene	205-99-2	1,400	3300	329	33.6 J	489	155	21.2 J	75.8
Benzo(g,h,i)perylene	191-24-2	2,300,000	2880	392	29.8 J	580	169	24.8 J	82.2
Benzo(k)fluoranthene	207-08-9	15,000	2480	247	25.8 J	357	99.5		64 J
Chrysene	218-01-9	140,000	2440	261 J		399	132 J		
Dibenzo(a,h)anthracene	53-70-3	100	1110	71.1		119	35.8 J		
Fluoranthene	206-44-0	2,900,000	1780	244 J		319 J	96.7 J		
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	2860	323	31.9 J	499	155	23.7 J	80.4
Naphthalene	91-20-3	40,000							
Phenanthrene	85-01-8	2,000,000							
Pyrene	129-00-0	2,200,000	2640	308 J		352	112 J		



TABLE 4-1

SOIL ANALYTICAL DETECTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Soil Location	CAS No.	SCTL (Residential)	50	51	52	53	54	55	56	57
Sample ID			NTC55S05002	NTC55S05102	NTC55S05202	NTC55S05302	NTC55S05402	NTC55S05502	NTC55S05602	NTC55S05702
Sample Date			5/13/03	5/21/03	5/21/03	5/21/03	5/21/03	5/21/03	5/21/03	5/21/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)										
Arsenic	7440-38-2	0.8								
PAH (µg/kg)										
1-Methylnaphthalene	90-12-0	68,000								
2-Methylnaphthalene	91-57-6	83,000								
Benzo(a)anthracene	56-55-3	1,400	185 J							
Benzo(a)pyrene	50-32-8	100	576	246	128	76.4	222	159	207	319
Benzo(b)fluoranthene	205-99-2	1,400	397	199	102	59.3 J	163	125	173	248
Benzo(g,h,i)perylene	191-24-2	2,300,000	448	238	116	69.5	191	159	217	295
Benzo(k)fluoranthene	207-08-9	15,000	335	150	80.2	39 J	125	92.4	122	195
Chrysene	218-01-9	140,000	319 J	178 J				107 J	152 J	206 J
Dibenzo(a,h)anthracene	53-70-3	100	75.5	40.1 J	23 J		39.3 J	31 J	36.9 J	55.3 J
Fluoranthene	206-44-0	2,900,000	260 J	184 J			99.4 J	110 J	149 J	200 J
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	410	191	110	67.9 J	180	125	173	246
Naphthalene	91-20-3	40,000								
Phenanthrene	85-01-8	2,000,000								
Pyrene	129-00-0	2,200,000	317 J	231 J	82.4 J		112 J	141 J	167 J	242 J

TABLE 4-1

**SOIL ANALYTICAL DETECTS  
STUDY AREA 55**

**NAVAL TRAINING CENTER  
ORLANDO, FLORIDA**

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Soil Location	CAS No.	SCTL (Residential)	57	58	59A	59B	60A	60B	
Sample ID			NTC55S05702-D	NTC55S05802	NTC55S05902	NTC55S05902-X	NTC55S06002	NTC55S06002-X	NTC55S06002-D
Sample Date			5/21/03	5/21/03	5/21/03	6/12/03	5/21/03	6/12/03	6/12/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAH (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	2550 J						
2-Methylnaphthalene	91-57-6	83,000	4080 J						
Benzo(a)anthracene	56-55-3	1,400	209 J			196 J		236 J	
Benzo(a)pyrene	50-32-8	100	423	143	393	235	347	348 J	
Benzo(b)fluoranthene	205-99-2	1,400	366	118	288	552	243	508 J	85.5 J
Benzo(g,h,i)perylene	191-24-2	2,300,000	346	135	330	372	272	392 J	
Benzo(k)fluoranthene	207-08-9	15,000	247	82.8	196	192	209	203 J	
Chrysene	218-01-9	140,000	310 J	134 J	253 J	307 J	226 J	342 J	
Dibenzo(a,h)anthracene	53-70-3	100	75 J	26.1 J	65.4 J	65.2 J	51.5 J	69.1 J	
Fluoranthene	206-44-0	2,900,000	399 J	104 J	234 J	247 J	171 J	275 J	
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	324	121	299	302	232	306 J	
Naphthalene	91-20-3	40,000	1370 J						
Phenanthrene	85-01-8	2,000,000							
Pyrene	129-00-0	2,200,000	366 J	109 J	324 J	256 J	224 J	275 J	

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TABLE 4-1

SOIL ANALYTICAL DETECTS  
STUDY AREA 55NAVAL TRAINING CENTER  
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Soil Location	CAS No.	SCTL (Residential)	61	63	68	70	71	74	77	78	
Sample ID			NTC55S06102	NTC55S06302	NTC55S06802	NTC55S07002	NTC55S07102	NTC55S07402	NTC55S07702	NTC55S07802	
Sample Date			6/12/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)											
Arsenic	7440-38-2	0.8									
PAH (µg/kg)											
1-Methylnaphthalene	90-12-0	68,000									
2-Methylnaphthalene	91-57-6	83,000									
Benzo(a)anthracene	56-55-3	1,400	327 J						138 J		
Benzo(a)pyrene	50-32-8	100	264	98.1	124	103	43.8 J	59.6 J	143	77.1	
Benzo(b)fluoranthene	205-99-2	1,400	639	211	203	254	87.7	108	347	149	
Benzo(g,h,i)perylene	191-24-2	2,300,000	491	163	199	174		127	250	120	
Benzo(k)fluoranthene	207-08-9	15,000	271	80.2	90.1	102		41.9 J	128	66.2 J	
Chrysene	218-01-9	140,000	407			188 J			245 J		
Dibenzo(a,h)anthracene	53-70-3	100	86.9	37.3 J	37.2 J	32 J			43.8 J		
Fluoranthene	206-44-0	2,900,000	422	131 J	102 J	194 J			253 J	114 J	
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	390		172	170			200		
Naphthalene	91-20-3	40,000									
Phenanthrene	85-01-8	2,000,000									
Pyrene	129-00-0	2,200,000	487	136 J	116 J	200 J	92.4 J		246 J	122 J	

TABLE 4-1  
SOIL ANALYTICAL DETECTS  
STUDY AREA 55  
  
NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Soil Location	CAS No.	SCTL (Residential)	79	81	82	83	84	85	86
Sample ID			NTC55S07902	NTC55S08102	NTC55S08202	NTC55S08302	NTC55S08402	NTC55S08502	NTC55S08602
Sample Date			6/12/03	7/10/03	7/10/03	7/10/03	7/10/03	7/10/03	7/10/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAH (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000							
2-Methylnaphthalene	91-57-6	83,000							
Benzo(a)anthracene	56-55-3	1,400	1950					529 J	
Benzo(a)pyrene	50-32-8	100	1900	52.8 J	37.9 J	151	101	545 J	66.6 J
Benzo(b)fluoranthene	205-99-2	1,400	2870	86.2	63.8 J	276	203	725 J	142
Benzo(g,h,i)perylene	191-24-2	2,300,000	2180	75.8	50.1 J	211	150	590 J	116
Benzo(k)fluoranthene	207-08-9	15,000	1120	33.5 J	20 J	104	86.6	354 J	65.5 J
Chrysene	218-01-9	140,000	1720			180 J	140 J	832 J	
Dibenzo(a,h)anthracene	53-70-3	100	351			43.1 J	25.6 J	90.8 J	19.9 J
Fluoranthene	206-44-0	2,900,000	1200 J			186 J	138 J	1290 J	148 J
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	1700	58.8 J	45 J	171	115	587 J	57.3 J
Naphthalene	91-20-3	40,000							
Phenanthrene	85-01-8	2,000,000						208 J	
Pyrene	129-00-0	2,200,000	1360 J			196 J	145 J	1410 J	158 J

TABLE 4-1

**SOIL ANALYTICAL DETECTS  
STUDY AREA 55**

**NAVAL TRAINING CENTER  
ORLANDO, FLORIDA**

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Soil Location	CAS No.	SCTL (Residential)	87	88	89	100		101
Sample ID			NTC55S08702	NTC55S08802	NTC55S08902	NTC55S10002	NTC55U10003	NTC55S10102
Sample Date			7/24/03	7/24/03	7/24/03	7/10/03	7/10/03	7/10/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)								
Arsenic	7440-38-2	0.8						
PAH (µg/kg)								
1-Methylnaphthalene	90-12-0	68,000						
2-Methylnaphthalene	91-57-6	83,000						
Benzo(a)anthracene	56-55-3	1,400				118 J		171 J
Benzo(a)pyrene	50-32-8	100	145	19.6 J	29 J	243		270
Benzo(b)fluoranthene	205-99-2	1,400	266	34.3 J	49.7 J	400	22.5 J	335
Benzo(g,h,i)perylene	191-24-2	2,300,000	215		42.2 J	340		311
Benzo(k)fluoranthene	207-08-9	15,000	103			190		139
Chrysene	218-01-9	140,000	155 J			262 J		188 J
Dibenzo(a,h)anthracene	53-70-3	100	35.5 J			59.7 J		45.9 J
Fluoranthene	206-44-0	2,900,000	157 J			291 J		154 J
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	170		38.8 J	259		222
Naphthalene	91-20-3	40,000						
Phenanthrene	85-01-8	2,000,000						
Pyrene	129-00-0	2,200,000	169 J			316 J		172 J

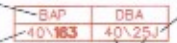
J = estimated value.



Shaded cells indicated results exceeds Residential SCTL.

CAD FILE NO./DATE: k:\dgn\mavy\orlando\sites\so55-013.dgn/11-14-03 SITE INVESTIGATION REPORT

# LEGEND

SURFACE SOIL SAMPLE (AUGUST 1998)   
MONITORING WELL   
APPROXIMATE SURFACE SAMPLE LOCATION 

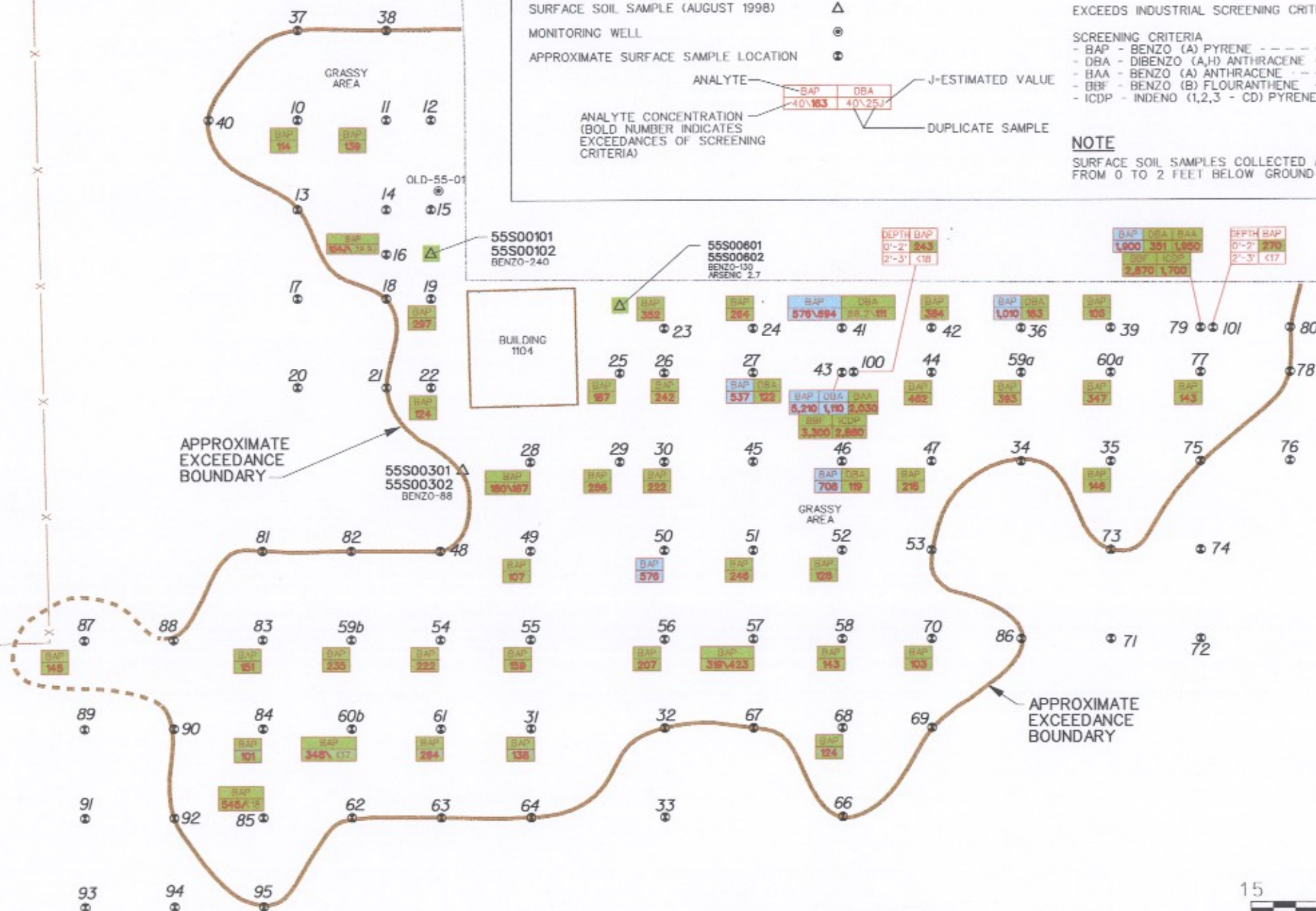
ANALYTE  J-ESTIMATED VALUE  
ANALYTE CONCENTRATION (BOLD NUMBER INDICATES EXCEEDANCES OF SCREENING CRITERIA)  
DUPLICATE SAMPLE

EXCEEDS RESIDENTIAL SCREENING CRITERIA   
EXCEEDS INDUSTRIAL SCREENING CRITERIA 

SCREENING CRITERIA	RESIDENTIAL	INDUSTRIAL
- BAP - BENZO (A) PYRENE	100 µg/kg	500 µg/kg
- DBA - DIBENZO (A,H) ANTHRACENE	100 µg/kg	500 µg/kg
- BAA - BENZO (A) ANTHRACENE	1,400 µg/kg	5,000 µg/kg
- BFB - BENZO (B) FLUORANTHENE	1,400 µg/kg	4,800 µg/kg
- ICDP - INDENO (1,2,3 - CD) PYRENE	1,500 µg/kg	5,300 µg/kg

## NOTE

SURFACE SOIL SAMPLES COLLECTED APRIL THRU JUNE, 2003  
FROM 0 TO 2 FEET BELOW GROUND SURFACE.



SOURCE:  
ROADS, BUILDINGS, ETC. ARE FROM A PHOTOGRAMMETRIC  
SURVEY BY DEMAPS, INC. AND REPS, INC. IN 1997.

DRAWN BY	DATE
JAW	11/14/03
CHECKED BY	DATE
REVISED BY	DATE
SCALE	AS NOTED



SURFACE SOIL SAMPLING DETECTIONS  
STUDY AREA 55 - AREA C

NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

CONTRACT NO.

OWNER NO.

APPROVED BY DATE

DRAWING NO. FIGURE 4-1  
REV.

TABLE 4-2

BENZO(A)PYRENE EQUIVALENTS  
STUDY AREA 55 - AREA C

NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

PAGE 1 OF 2

Sample location	Benzo(a)pyrene equivalent
10	150.94
11	177.51
12	90.82
13	59.66
14	81.31
15	62.26
16	132.35
17	124.97
18	125.81
19	344.27
20	125.58
21	80.7
22	158.32
23	447.66
24	344.19
25	255.65
26	312.65
27	747.57
28	250.09
29	335.91
30	295.92
31	193.24
32	48.73
33	23.13
34	98.58
35	197.83
36	1347.88
37	59.93
38	69.77
39	132.75
40	133.11
41	944.69
42	516.52
43	7166.24
44	613.53
45	53.3
46	942.57
47	286.98
48	45.22
49	136
50	754.37
51	331.13
52	177.09
53	102.3
54	301.04



TABLE 4-2

BENZO(A)PYRENE EQUIVALENTS  
STUDY AREA 55 - AREA C

NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

PAGE 2 OF 2

Sample location	Benzo(a)pyrene equivalent
55	220.48
56	284.12
57	590.68
58	198.11
59a	523.66
59b	407.43
60a	452.67
60b	524.47
61	489.62
62	49.68
63	162.5
64	23.13
66	23.18
67	28.64
68	203.94
69	23.18
70	182.91
71	66.35
72	25.63
73	25.73
74	84.46
75	23.13
76	25.53
77	256.83
78	106.36
79	2915.92
80	50.33
81	81.08
82	62.42
83	244.42
84	163.81
85	824.27
86	111.43
87	229.69
88	36.86
89	50.73
90	23.08
91	24.38
92	24.33
93	23.18
94	24.33
95	24.33
100	382.56
101	390.28



other cPAHs. Consequently, TEFs suggested by the USEPA in *Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment* (USEPA, 1995) are multiplied by the concentration of the individual cPAH and summed for a total BAP equivalent concentration. TEF factors recommended by the USEPA are as follows:

<u>cPAH</u>	<u>TEF</u>
• BAP	1
• Benzo(a)anthracene	0.1
• Benzo(b)fluoranthene	0.1
• Benzo(k)fluoranthene	0.01
• Chrysene	0.001
• Dibenzo(a,h)anthracene	1
• Indeno(1,2,3-c,d)pyrene	0.1

If any of the cPAH concentrations were below the detection limit at a sample location, then one-half the detection limit of that chemical was used as its concentration. The BAP equivalent is typically used as the chemical concentration term in further calculations to determine the risk associated with exposure to cPAHs.

After calculating BAP equivalent concentrations for each of the 89 sample locations, a 95 percent UCL was determined for SA 55 (Appendix C). It was determined that the data fit a lognormal distribution; therefore, the lognormal 95 percent UCL for BAP equivalent (410 µg/kg) was selected as the EPC and compared to the residential SCTL (100 µg/kg). Because the EPC exceeded the SCTL, it was determined that further action was needed to address cPAHs at SA 55.

Per OPT recommendations, soil sample locations having a BAP equivalent exceeding three times the residential SCTL for BAP (300 µg/kg) were marked for excavation (Figure 4-2). A 95 percent UCL was recalculated for the site based on this proposed excavation. It was assumed that the selected sample locations would be clean after excavation and BAP equivalent concentrations at those locations were replaced with non-detect values. Both 10 µg/kg and 25 µg/kg were used as non-detect values. Results of the 95 percent UCL calculations are presented in Appendix C. For both calculations, it was determined that the 95 percent UCL for BAP equivalent at SA 55 would not exceed the residential SCTL of 100 µg/kg after excavation.

### **4.3 INTERIM REMEDIAL ACTION**

To remediate the contaminated soil at SA 55, the OPT directed that an IRA soil removal be performed. In February 2004, CH2M Hill excavated the contaminated soil based on the results of the 95 percent UCL calculations. The approximate boundaries of the three excavation areas are shown in Figure 4-2. The soil was excavated to a depth of 2 feet and replaced with clean fill to remediate the contaminated areas. A total of approximately 372 tons of soil was removed and transported to Waste Management Okeechobee Landfill (Subtitle D) for proper disposal as non-hazardous waste. The Technical Memorandum summarizing these soil removal activities along with a transportation and disposal log, copies of the waste profile information and disposal manifests are included as Appendix D of this report.

CADD FILE NO./DATE: k:\dgn\mavy\orlando\aitas\so55-009.dgn/11-14-03 SITE INVESTIGATION REPORT

# LOCATION COORDINATES

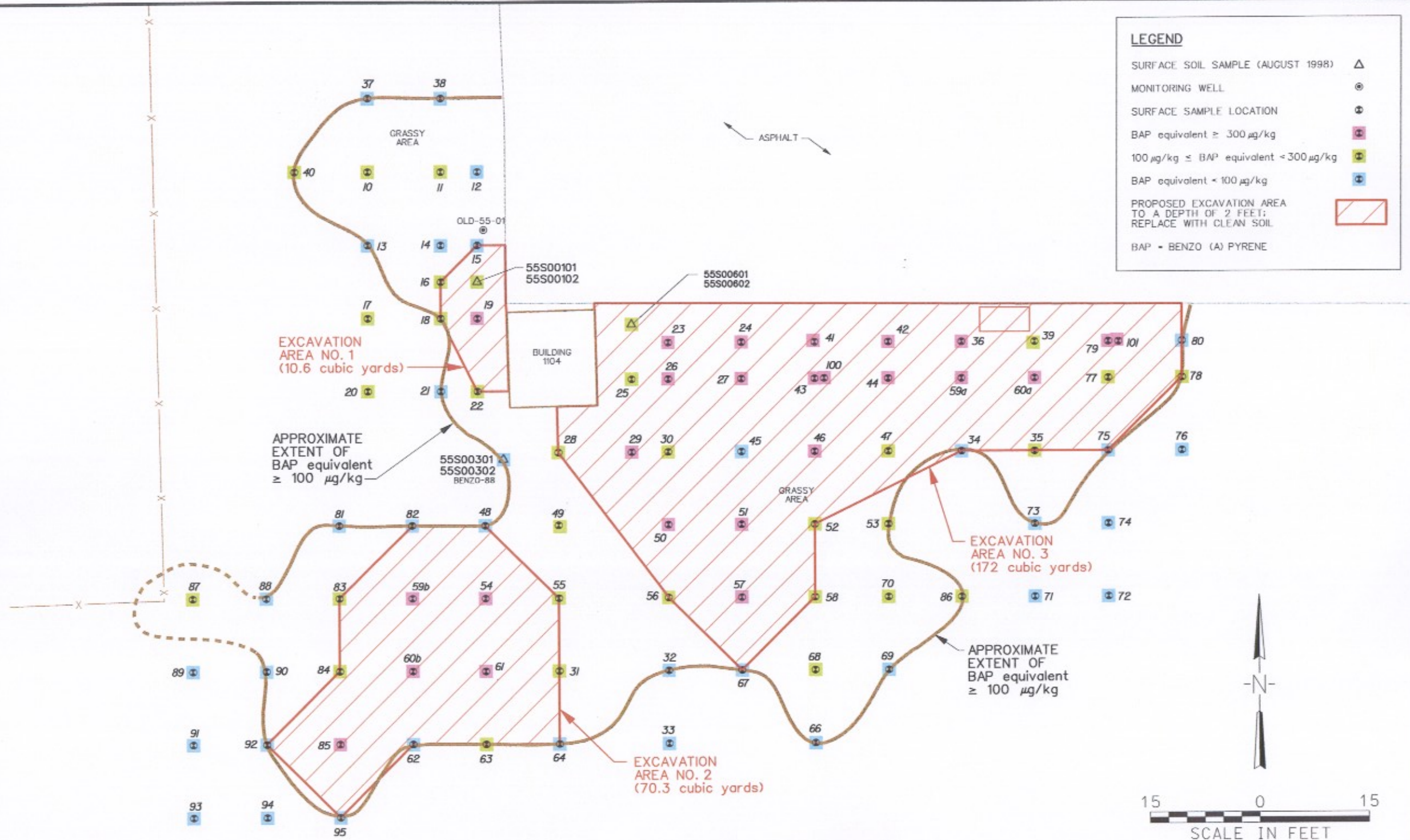
LOCATION	NORTHING	EASTING
15	1535800	544463
16	1535795	544458
18	1535790	544458
22	1535780	544463
31	1535742	544474
48	1535762	544464
55	1535752	544474
62	1535732	544454
63	1535732	544464
64	1535732	544474
82	1535762	544454
83	1535752	544444
84	1535742	544444
92	1535732	544434
95	1535722	544444
28	1535772	544474
34	1535772	544529
35	1535772	544539
52	1535762	544509
56	1535752	544489
58	1535752	544509
67	1535742	544499
75	1535772	544549
78	1535782	544559
80	1535787	544559

LOCATION	DATE SAMPLED
10-19	APRIL 7, 2003
20-30	APRIL 8, 2003
31-60A	MAY 3, 2003
59B-64, 66-80	JUNE 12, 2003
81-86, 100, 101	JULY 10, 2003
87-95	JULY 24, 2003

SOURCE:  
ROADS, BUILDINGS, ETC. ARE FROM A PHOTOGRAMMETRIC  
SURVEY BY DEMAPS, INC. AND REPS, INC. IN 1997.

## LEGEND

- SURFACE SOIL SAMPLE (AUGUST 1998)
- MONITORING WELL
- SURFACE SAMPLE LOCATION
- BAP equivalent  $\geq 300 \mu\text{g/kg}$
- $100 \mu\text{g/kg} \leq \text{BAP equivalent} < 300 \mu\text{g/kg}$
- BAP equivalent  $< 100 \mu\text{g/kg}$
- PROPOSED EXCAVATION AREA  
TO A DEPTH OF 2 FEET;  
REPLACE WITH CLEAN SOIL
- BAP = BENZO (A) PYRENE



DRAWN BY	DATE
JAW	11/14/03
CHECKED BY	DATE
REVISD BY	DATE
SCALE	AS NOTED



SOIL EXCAVATION AREAS  
STUDY AREA 55 - AREA C

NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

CONTRACT NO.	
OWNER NO.	
APPROVED BY	DATE
DRAWING NO.	REV.
FIGURE 4-2	

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 CONCLUSIONS

The extent of PAH concentrations in surface soil exceeding the Florida residential SCTLs in the study area was delineated during the Site Investigation. Two subsurface soil samples were collected to verify that no vertical migration of PAHs had occurred. Benzo(a)anthracene, BAP, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were observed at concentrations as high as 2,030 µg/kg, 5,210 µg/kg, 3300 µg/kg, 1,110 µg/kg, and 2,860 µg/kg, respectively.

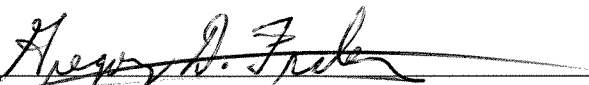
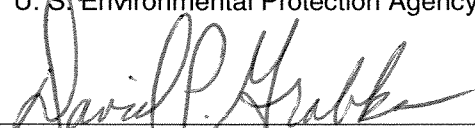
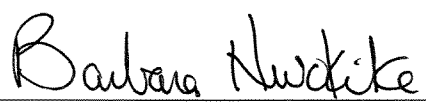
Per OPT recommendations, a soil sample location having a BAP equivalent exceeding three times the residential SCTL for BAP was excavated. The following three areas were excavated: East of Building 1104 - approximately 10.6 yd<sup>3</sup>; Southeast of Building 1104 - approximately 70.3 yd<sup>3</sup>; and West to southwest of Building 1104 - approximately 172 yd<sup>3</sup>.

### 5.2 RECOMMENDATIONS

The surface soil excavation and off-site disposal performed by CH2M Hill in February 2004 mitigated the PAH-contaminated surface soils to levels compatible with a future residential use.

### 5.3 OPT CONCURRENCE

The undersigned members of the OPT concur with the findings and recommendations presented in this investigation report.

STUDY AREA 55	
 U. S. Environmental Protection Agency, Region 4	<u>8 November 2004</u> Date
 Florida Department of Environmental Protection	<u>20 August 2004</u> Date
 U.S. Department of the Navy	<u>AUGUST 11, 2004</u> Date

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**APPENDIX A**  
**PREVIOUS INVESTIGATION RESULTS**

Appendix C  
Table C-1. Summary of Surface Soil Immunoassay Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

Sample ID	55S00101	55S00101D	55S00201	55S00301	55S00401	55S00501	55S00601
Sampling Date	8/11/98	8/11/98	8/11/98	8/11/98	8/11/98	8/11/98	8/11/98
Polychlorinated Biphenyls (PCBs), ppm							
Total PCBs	1 U	4	1 U	1 U	1 U	1 U	1 U
<b>NOTES:</b> 55S00101D is a duplicate analysis of the extract obtained from 55S00101. Sample ID = Sample Identifier ppm = parts per million U = The analyte/compound was analyzed for but was not detected above the method quantitation limit. The number preceding the U qualifier is the method quantitation limit.							



Appendix C  
Table C-2. Summary of Detections in Surface Soil Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

Sample ID	Background	SCTL	RBC for Residential Soil	RBC for Industrial Soil	55S00102	55S00302	55S00602
Sampling Date					8/12/98	8/12/98	8/12/98
<b>Semivolatile Organics, µg/kg</b>							
Benzo(a)anthracene		1,400	880 c	7,800 c	100 J		61 J
Benzo(a)pyrene		100	88 c	780 c	240 J	88 J	130 J
Benzo(b)fluoranthene		1,400	880 c	7,800 c	440	160 J	230 J
Benzo(g,h,i)perylene		2,300,000	2,300,000 n	61,000,000 n	240 J	80 J	120 J
Benzo(k)fluoranthene		15,000	8,800 c	78,000 c	150 J	66 J	95 J
Chrysene		140,000	88,000 c	780,000 c	230 J	83 J	140 J
Fluoranthene		2,800,000	3,100,000 n	82,000,000 n	170 J	54 J	130 J
Indeno(1,2,3-cd)pyrene		1,500	880 c	7,800 c	190 J	70 J	100 J
Phenanthrene		1,900,000	2,300,000 n	61,000,000 n	57 J		
Pyrene		2,200,000	2,300,000 n	61,000,000 n	220 J	76 J	180 J
<b>Pesticides, µg/kg</b>							
4,4'-DDD		4,500	2,700 c	24,000 c			7
4,4'-DDE		3,200	1,900 c	17,000 c	8.3		
4,4'-DDT		3,200	1,900 c	17,000 c	6.7		
Aldrin		60	38 c	340 c			1.8
alpha-Chlordane		3,000	490 c	4,400 c			21
Endosulfan I		410,000	ND	ND			4.4 J
gamma-Chlordane		3,000	490 c	4,400 c			16
Heptachlor epoxide		100	140 c	1,300 c			5.6
<b>Inorganics, mg/kg</b>							
Aluminum	2088	72,000	78,000 n	1,000,000 n	2,490	3,420	2,490
Arsenic	1.0	0.8	0.43 /23 c/n	3.8 /610 c/	0.96 B	0.97 B	2.7
Barium	8.7	105	5,500 n	140,000 n	5.3 B	4.5 B	3.9 B
Calcium	25295	ND	1,000,000	1,000,000	9,360	1,920	3,080
Chromium	4.6	290	390 n	10,000 n	3.2	3.1	2.6
Copper	4.1	105	3,100 n	82,000 n	2.7	1.6 B	1.0 B
Iron	712.5	23,000	23,000 n	610,000 n	1,200	1,410	1,270
Lead	14.5	500	400	400	12.1	3.9	4.5
Magnesium	327.9	ND	460,468	460,468	4,430	80.7 B	92.7 B
Manganese	8.1	1,600	1,800 n	47,000 n	14.5	11.6	10.0
Nickel	4.4	1500	1,600 n	41,000 n		1.7 B	
Potassium	157.3	ND	1,000,000	1,000,000	15.7 B	22.6 B	15.5 B
Sodium	91.4	ND	1,000,000	1,000,000	42.6 B	38.7 B	34.8 B
Vanadium	3.1	15	550 n	14,000 n	3.5 B	3.1 B	2.7 B
Zinc	17.2	23,000	23,000 n	610,000 n	9.6	8.4	3.9 B

**NOTES:**

The background screening value is twice the average of detected concentrations for inorganic analytes.

SCTL = Florida Department of Environmental Protection, Soil Cleanup Target Levels, Chapter 62-785 FAC, April 30, 1998.

Values indicated are for direct exposure scenario. Value for chromium is for chromium (IV).

Value for mercury is for inorganic mercury.

RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith. RBC for chromium is based on chromium VI. RBC for lead is not available; value is Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites (OSWER directive 9355-4-12). For essential nutrients (calcium, magnesium, sodium, potassium) screening values were derived based on recommended daily allowances.

RBC for benzo(g,h,i)perylene and phenanthrene are not available, value is based on pyrene.

µg/kg = micrograms per kilogram.

DDE = dichlorodiphenyldichloroethene.

mg/kg = milligrams per kilogram.

DDT = dichlorodiphenyltrichloroethane.

n = noncarcinogenic effects.

DDD = dichlorodiphenyldichloroethane.



Appendix C  
Table C-2. Summary of Detections in Surface Soil Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

c = carcinogenic effects.

ND = Not determined.

B = Reported concentration is between the instrument detection limit and Contract Required Detection Limit.

J = Reported concentration is an estimated quantity.

FDEP = Florida Department of Environmental Protection.

OSWER = Office of Solid Waste and Emergency Response.

USEPA = U.S. Environmental Protection Agency.

All inorganics results expressed in milligrams per kilogram (mg/kg) soil dry weight; organics in micrograms per kilogram ( $\mu\text{g/kg}$ ) soil dry weight.

Bold/shaded values indicate exceedance of regulatory guidance and background.

Blank space indicates analyte/compound was not detected at the reporting limit.

Appendix C  
Table C-3. Summary of Detections in Groundwater Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

Well ID						OLD-55-01					
Sample ID	Background	FDEPGCTL	FEDMCL	RBC for Tap Water		55G00101					
Sampling Date						8/12/98					
Inorganics, µg/L											
Aluminum	4,067	200 s	ND	37,000 n		270					
Barium	31.4	2,000 p/st	2,000	2,600 n		8.3 B					
Calcium	36,830	ND	ND	1,000,000		19000					
Magnesium	4,560	ND	ND	118,807		550 B					
Manganese	17	50 s/st	ND	180 n		19					
Potassium	5,400	ND	ND	297,016		400 B					
Sodium	18,222	160,000 p	ND	396,022		2200 B					
<b>NOTES:</b>											
Groundwater background screening value is twice the average of detected concentrations for inorganic analytes.											
FDEPGCTL = Florida Department of Environmental Protection, Groundwater Cleanup Target Levels, Chapter 62-785 FAC, April 30, 1998.											
FEDMCL = Federal Maximum Contaminant Levels, Primary Drinking Water Regulations and Health Advisories, February 1996.											
RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith.											
For essential nutrients (calcium, magnesium, potassium, and sodium) screening values were derived based on recommended daily allowances.											
s = secondary groundwater standard.											
st = systemic toxicant.											
p = primary standard.											
n = noncarcinogenic effects.											
USEPA = U.S. Environmental Protection Agency.											
B = Reported concentration is between the instrument detection limit and the contract required detection limit.											
ND = Not determined.											
µg/L = micrograms per liter.											
Blank space indicates analyte/compound was not detected at the reporting limit.											

Appendix D  
Table D-1. Summary of Soil Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

Sample ID	55S00102	55S00302	55S00602
Lab ID	A8H140121005	A8H140121006	A8H140121007
Sampling Date	8/12/98	8/12/98	8/12/98
<b>Volatile organics, µg/kg</b>			
1,1,1-Trichloroethane	260 U	260 U	260 U
1,1,2,2-Tetrachloroethane	260 U	260 U	260 U
1,1,2-Trichloroethane	260 U	260 U	260 U
1,1-Dichloroethane	260 U	260 U	260 U
1,1-Dichloroethene	260 U	260 U	260 U
1,2-Dichloroethane	260 U	260 U	260 U
1,2-Dichloroethene (total)	260 U	260 U	260 U
1,2-Dichloropropane	260 U	260 U	260 U
2-Butanone	1000 U	1000 U	1100 U
2-Hexanone	1000 U	1000 U	1100 U
4-Methyl-2-pentanone	1000 U	1000 U	1100 U
Acetone	1000 U	1000 U	1100 U
Benzene	260 U	260 U	260 U
Bromodichloromethane	260 U	260 U	260 U
Bromoform	260 U	260 U	260 U
Bromomethane	520 U	520 U	530 U
Carbon disulfide	260 U	260 U	260 U
Carbon tetrachloride	260 U	260 U	260 U
Chlorobenzene	260 U	260 U	260 U
Chloroethane	520 U	520 U	530 U
Chloroform	260 U	260 U	260 U
Chloromethane	520 U	520 U	530 U
cis-1,3-Dichloropropene	260 U	260 U	260 U
Dibromochloromethane	260 U	260 U	260 U
Ethylbenzene	260 U	260 U	260 U
Methylene chloride	260 U	260 U	260 U
Styrene	260 U	260 U	260 U
Tetrachloroethene	260 U	260 U	260 U
Toluene	260 U	260 U	260 U
trans-1,3-Dichloropropene	260 U	260 U	260 U
Trichloroethene	260 U	260 U	260 U
Vinyl chloride	520 U	520 U	530 U
Xylene (total)	260 U	260 U	260 U
<b>Semivolatile organics, µg/kg</b>			
1,2,4-Trichlorobenzene	350 U	350 U	350 U
1,2-Dichlorobenzene	350 U	350 U	350 U
1,3-Dichlorobenzene	350 U	350 U	350 U
1,4-Dichlorobenzene	350 U	350 U	350 U
2,2'-oxybis(1-Chloropropane)	350 U	350 U	350 U
2,4,5-Trichlorophenol	350 U	350 U	350 U
2,4,6-Trichlorophenol	350 U	350 U	350 U
2,4-Dichlorophenol	350 U	350 U	350 U
2,4-Dimethylphenol	350 U	350 U	350 U
2,4-Dinitrophenol	1700 U	1700 U	1700 U
2,4-Dinitrotoluene	350 U	350 U	350 U
2,6-Dinitrotoluene	350 U	350 U	350 U
2-Chloronaphthalene	350 U	350 U	350 U
2-Chlorophenol	350 U	350 U	350 U
2-Methylnaphthalene	350 U	350 U	350 U
2-Methylphenol	350 U	350 U	350 U
2-Nitroaniline	1700 U	1700 U	1700 U

Appendix D  
Table D-1. Summary of Soil Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

Sample ID	55S00102	55S00302	55S00602
Lab ID	A8H140121005	A8H140121006	A8H140121007
Sampling Date	8/12/98	8/12/98	8/12/98
2-Nitrophenol	350 U	350 U	350 U
3,3'-Dichlorobenzidine	1700 U	1700 U	1700 U
3-Nitroaniline	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	1700 U	1700 U	1700 U
4-Bromophenyl-phenylether	350 U	350 U	350 U
4-Chloro-3-methylphenol	350 U	350 U	350 U
4-Chloroaniline	350 U	350 U	350 U
4-Chlorophenyl-phenylether	350 U	350 U	350 U
4-Methylphenol	350 U	350 U	350 U
4-Nitroaniline	1700 U	1700 U	1700 U
4-Nitrophenol	1700 U	1700 U	1700 U
Acenaphthene	350 U	350 U	350 U
Acenaphthylene	350 U	350 U	350 U
Anthracene	350 U	350 U	350 U
Benzo(a)anthracene	100 J	350 U	61 J
Benzo(a)pyrene	240 J	88 J	130 J
Benzo(b)fluoranthene	440	160 J	230 J
Benzo(g,h,i)perylene	240 J	80 J	120 J
Benzo(k)fluoranthene	150 J	66 J	95 J
bis(2-Chloroethoxy)methane	350 U	350 U	350 U
bis(2-Chloroethyl)ether	350 U	350 U	350 U
bis(2-Ethylhexyl)phthalate	350 U	350 U	350 U
Butylbenzylphthalate	350 U	350 U	350 U
Carbazole	350 U	350 U	350 U
Chrysene	230 J	83 J	140 J
Di-n-butylphthalate	350 U	350 U	350 U
Di-n-octylphthalate	350 U	350 U	350 U
Dibenz(a,h)anthracene	350 U	350 U	350 U
Dibenzofuran	350 U	350 U	350 U
Diethylphthalate	350 U	350 U	350 U
Dimethylphthalate	350 U	350 U	350 U
Fluoranthene	170 J	54 J	130 J
Fluorene	350 U	350 U	350 U
Hexachlorobenzene	350 U	350 U	350 U
Hexachlorobutadiene	350 U	350 U	350 U
Hexachlorocyclopentadiene	1700 U	1700 U	1700 U
Hexachloroethane	350 U	350 U	350 U
Indeno(1,2,3-cd)pyrene	190 J	70 J	100 J
Isophorone	350 U	350 U	350 U
N-Nitroso-di-n-propylamine	350 U	350 U	350 U
N-Nitrosodiphenylamine (1)	350 U	350 U	350 U
Naphthalene	350 U	350 U	350 U
Nitrobenzene	350 U	350 U	350 U
Pentachlorophenol	1700 U	1700 U	1700 U
Phenanthrene	57 J	350 U	350 U
Phenol	350 U	350 U	350 U
Pyrene	220 J	76 J	180 J
Pesticides/PCBs, µg/kg			
4,4'-DDD	3.5 U	3.5 U	7
4,4'-DDE	8.3	3.5 U	3.5 U
4,4'-DDT	6.7	3.5 U	3.5 U
Aldrin	1.8 U	1.8 U	1.8

Appendix D  
Table D-1. Summary of Soil Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

Sample ID	55S00102	55S00302	55S00602
Lab ID	A8H140121005	A8H140121006	A8H140121007
Sampling Date	8/12/98	8/12/98	8/12/98
alpha-BHC	1.8 U	1.8 U	1.8 U
alpha-Chlordane	1.8 U	1.8 U	21
Aroclor-1016	35 U	35 U	35 U
Aroclor-1221	35 U	35 U	35 U
Aroclor-1232	35 U	35 U	35 U
Aroclor-1242	35 U	35 U	35 U
Aroclor-1248	35 U	35 U	35 U
Aroclor-1254	35 U	35 U	35 U
Aroclor-1260	35 U	35 U	35 U
beta-BHC	1.8 U	1.8 U	1.8 U
delta-BHC	1.8 U	1.8 U	1.8 U
Dieldrin	3.5 U	3.5 U	3.5 U
Endosulfan I	1.8 U	1.8 U	4.4 PF
Endosulfan II	3.5 U	3.5 U	3.5 U
Endosulfan sulfate	3.5 U	3.5 U	3.5 U
Endrin	3.5 U	3.5 U	3.5 U
Endrin aldehyde	3.5 U	3.5 U	3.5 U
Endrin ketone	3.5 U	3.5 U	3.5 U
gamma-BHC (Lindane)	1.8 U	1.8 U	1.8 U
gamma-Chlordane	1.8 U	1.8 U	16
Heptachlor	1.8 U	1.8 U	1.8 U
Heptachlor epoxide	1.8 U	1.8 U	5.6
Methoxychlor	18 U	18 U	18 U
Toxaphene	87 U	87 U	87 U

Appendix D  
Table D-2. Summary of Groundwater Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

Sample ID	55G00101
Lab ID	A8H140121008
Sampling Date	8/12/98
Volatile organics, µg/L	
1,1,1,2-Tetrachloroethane	0.5 U
1,1,1-Trichloroethane	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U
1,1,2-Trichloroethane	0.5 U
1,1-Dichloroethane	0.5 U
1,1-Dichloroethene	0.5 U
1,1-Dichloropropene	0.5 U
1,2,3-Trichlorobenzene	0.5 U
1,2,3-Trichloropropane	0.5 U
1,2,4-Trichlorobenzene	0.5 U
1,2,4-Trimethylbenzene	0.5 U
1,2-Dibromo-3-chloropropane	0.6 U
1,2-Dibromoethane	0.5 U
1,2-Dichloroethane	0.5 U
1,2-Dichlorobenzene	0.5 U
1,3-Dichlorobenzene	0.5 U
1,4-Dichlorobenzene	0.5 U
1,2-Dichloropropane	0.5 U
1,3,5-Trimethylbenzene	0.5 U
1,3-Dichloropropane	0.5 U
2,2-Dichloropropane	0.5 U
2-Chlorotoluene	0.5 U
4-Chlorotoluene	0.5 U
4-Isopropyltoluene	0.5 U
Benzene	0.5 U
Bromobenzene	0.5 U
Bromochloromethane	0.5 U
Bromodichloromethane	0.5 U
Bromoform	0.5 U
Bromomethane	0.5 U
Carbon tetrachloride	0.5 U
Chlorobenzene	0.5 U
Chloroethane	0.5 U
Chloroform	0.5 U
Chloromethane	0.5 U
cis-1,2-Dichloroethene	0.5 U
cis-1,3-Dichloropropene	0.5 U
Dibromochloromethane	0.5 U
Dibromomethane	0.5 U
Dichlorodifluoromethane (CFC 12)	0.5 U
Ethylbenzene	0.5 U
Hexachlorobutadiene	0.5 U
Isopropylbenzene	0.5 U
Methylene chloride	0.5 U
Naphthalene	0.5 U
n-Butylbenzene	0.5 U
n-Propylbenzene	0.5 U
sec-Butylbenzene	0.5 U
Styrene	0.5 U
tert-Butylbenzene	0.5 U

Appendix D  
Table D-2. Summary of Groundwater Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

<b>Sample ID</b>	55G00101
<b>Lab ID</b>	A8H140121008
<b>Sampling Date</b>	8/12/98
Tetrachloroethene	0.5 U
Toluene	0.5 U
trans-1,2-Dichloroethene	0.5 U
trans-1,3-Dichloropropene	0.5 U
Trichloroethene	0.5 U
Trichlorofluoromethane (CFC 11)	0.5 U
Vinyl chloride	0.5 U
<b>Semivolatile organics, µg/L</b>	
2,2'-oxybis(1-Chloropropane)	10 U
2,4,5-Trichlorophenol	10 U
2,4,6-Trichlorophenol	10 U
2,4-Dichlorophenol	10 U
2,4-Dimethylphenol	10 U
2,4-Dinitrophenol	50 U
2,4-Dinitrotoluene	10 U
2,6-Dinitrotoluene	10 U
2-Chloronaphthalene	10 U
2-Chlorophenol	10 U
2-Methylnaphthalene	10 U
2-Methylphenol	10 U
2-Nitroaniline	50 U
2-Nitrophenol	10 U
3,3'-Dichlorobenzidine	50 U
3-Nitroaniline	50 U
4,6-Dinitro-2-methylphenol	50 U
4-Bromophenyl-phenylether	10 U
4-Chloro-3-methylphenol	10 U
4-Chloroaniline	10 U
4-Chlorophenyl-phenylether	10 U
4-Methylphenol	10 U
4-Nitroaniline	50 U
4-Nitrophenol	50 U
Acenaphthene	10 U
Acenaphthylene	10 U
Anthracene	10 U
Benzo(a)anthracene	10 U
Benzo(a)pyrene	10 U
Benzo(b)fluoranthene	10 U
Benzo(g,h,i)perylene	10 U
Benzo(k)fluoranthene	10 U
bis(2-Chloroethoxy)methane	10 U
bis(2-Chloroethyl)ether	10 U
bis(2-Ethylhexyl)phthalate	10 U
Butylbenzylphthalate	10 U
Carbazole	10 U
Chrysene	10 U
Di-n-butylphthalate	10 U
Di-n-octylphthalate	10 U
Dibenz(a,h)anthracene	10 U
Dibenzofuran	10 U
Diethylphthalate	10 U

Appendix D  
Table D-2. Summary of Groundwater Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

Sample ID	55G00101
Lab ID	A8H140121008
Sampling Date	8/12/98
Dimethylphthalate	10 U
Fluoranthene	10 U
Fluorene	10 U
Hexachlorobenzene	10 U
Hexachlorocyclopentadiene	50 U
Hexachloroethane	10 U
Indeno(1,2,3-cd)pyrene	10 U
Isophorone	10 U
N-Nitroso-di-n-propylamine	10 U
N-Nitrosodiphenylamine (1)	10 U
Nitrobenzene	10 U
Pentachlorophenol	50 U
Phenanthrene	10 U
Phenol	10 U
Pyrene	10 U
Pesticides/PCBs, µg/L	
4,4'-DDD	0.05 U
4,4'-DDE	0.05 U
4,4'-DDT	0.05 U
Aldrin	0.025 U
alpha-BHC	0.025 U
alpha-Chlordane	0.025 U
Aroclor-1016	0.5 U
Aroclor-1221	0.5 U
Aroclor-1232	0.5 U
Aroclor-1242	0.5 U
Aroclor-1248	0.5 U
Aroclor-1254	0.5 U
Aroclor-1260	0.5 U
beta-BHC	0.025 U
delta-BHC	0.025 U
Dieldrin	0.05 U
Endosulfan I	0.025 U
Endosulfan II	0.05 U
Endosulfan sulfate	0.05 U
Endrin	0.05 U
Endrin aldehyde	0.05 U
Endrin ketone	0.05 U
gamma-BHC (Lindane)	0.025 U
gamma-Chlordane	0.025 U
Heptachlor	0.025 U
Heptachlor epoxide	0.025 U
Methoxychlor	0.25 U
Toxaphene	1.2 U
Inorganics, µg/L	
Aluminum	270
Antimony	60 U
Arsenic	10 U
Barium	8.3 B
Beryllium	5 U
Cadmium	5 U



Appendix D  
Table D-2. Summary of Groundwater Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

<b>Sample ID</b>	55G00101
<b>Lab ID</b>	A8H140121008
<b>Sampling Date</b>	8/12/98
Calcium	19000
Chromium	10 U
Cobalt	50 U
Copper	25 U
Iron	100 U
Lead	3 U
Magnesium	550 B
Manganese	19
Mercury	0.2 U
Nickel	40 U
Potassium	400 B
Selenium	5 U
Silver	10 U
Sodium	2200 B
Thallium	10 U
Vanadium	50 U
Zinc	50 U

Appendix D  
Table D-3. Summary of Wipe Samples Analytical Results  
Study Area 55

Naval Training Center, Orlando  
Orlando, FL

Sample ID	55Z00101	55Z00201	55Z00301
Lab ID	A8H140121001	A8H140121002	A8H140121003
Sampling Date	8/12/98	8/12/98	8/12/98
Polychlorinated Biphenyls, µg			
Aroclor-1016	4 U	4 U	4 U
Aroclor-1221	4 U	4 U	4 U
Aroclor-1232	4 U	4 U	4 U
Aroclor-1242	4 U	4 U	4 U
Aroclor-1248	4 U	4 U	4 U
Aroclor-1254	4 U	4 U	4 U
Aroclor-1260	4 U	4 U	4 U

Appendix D.  
Notes for Summary of Analytical Results Tables  
Study Area 55

Naval Training Center, Orlando  
Orlando Florida

NA = Identified parameter not analyzed.  
Sample ID = Sample Identifier  
Lab ID = Laboratory identifier

Units:

mg/kg milligram per kilogram  
ug/kg microgram per kilogram  
ug/L microgram per liter  
ug microgram

The following standard analytical data qualifiers have the following definitions:

- U The analyte/compound was analyzed for but was not detected above the reported sample quantitation limit  
The number preceding the U qualifier is the reported sample quantitation limit.
- J The analyte/compound was positively identified and the associated numerical value is an estimated concentration  
of the analyte/compound in the sample.
- B Reported concentration is between the instrument detection limit (IDL) and the contract required detection limit (CRDL).

**APPENDIX B**  
**VALIDATED ANALYTICAL RESULTS**

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Sample Location	CAS No.	SCTL (Residential)	10	11	12	13	14	15	16
Sample ID			NTC55S01002	NTC55S01102	NTC55S01202	NTC55S01302	NTC55S01402	NTC55S01502	NTC55S01602
Sample Date			4/7/03	4/7/03	4/7/03	4/7/03	4/7/03	4/7/03	4/7/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8	0.29	0.3 U	0.44	0.66	0.28 U	0.32	0.44
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	86 U	87 U	95 U	85 U	87 U	86 U	86 U
2-Methylnaphthalene	91-57-6	83,000	86 U	87 U	95 U	85 U	87 U	86 U	86 U
Acenaphthene	83-32-9	1,900,000	170 U	170 U	190 U	170 U	170 U	170 U	170 U
Acenaphthylene	208-96-8	1,100,000	170 U	170 U	190 U	170 U	170 U	170 U	170 U
Anthracene	120-12-7	18,000,000	170 U	170 U	190 U	170 U	170 U	170 U	170 U
Benzo(a)anthracene	56-55-3	1,400	86	87 U	95 U	85 U	87 U	86 U	86 U
Benzo(a)pyrene	50-32-8	100	114	139	62.4 J	38.9 J	57.5 J	40.2 J	104 J
Benzo(b)fluoranthene	205-99-2	1,400	88.5	128	79	35.8 J	52.7 J	39.3 J	71 J
Benzo(g,h,i)perylene	191-24-2	2,300,000	179	202	76.5	46.2 J	73.9	61.3 J	124 J
Benzo(k)fluoranthene	207-08-9	15,000	74.8	122	64.6 J	26.5 J	34.6 J	38.3 J	56.6 J
Chrysene	218-01-9	140,000	86 U	87 U	95 U	85 U	87 U	86 U	86 U
Dibenzo(a,h)anthracene	53-70-3	100	17 U	17 U	19 U	17 U	17 U	17 U	17 U
Fluoranthene	206-44-0	2,900,000	130 J	166 J	104 J	85 U	87 U	86 U	94.5 J
Fluorene	86-73-7	2,200,000	170 U	170 U	190 U	170 U	170 U	170 U	170 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	102	116	55.8 J	41.2 J	53 J	49 J	77.9 J
Naphthalene	91-20-3	40,000	86 U	87 U	95 U	85 U	87 U	86 U	86 U
Phenanthrene	85-01-8	2,000,000	170 U	170 U	190 U	170 U	170 U	170 U	170 U
Pyrene	129-00-0	2,200,000	154 J	202 J	95.6 J	85 U	87 U	86 U	107 J
Miscellaneous (%)									
Percent Solids	TTNUS291		97.7	97.4	88.6	97	97.3	97	96.3

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TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Sample Location	CAS No.	SCTL (Residential)	16	17	18	19	20	21	22
Sample ID			NTC55S01602-D	NTC55S01702	NTC55S01802	NTC55S01902	NTC55S02002	NTC55S02102	NTC55S02202
Sample Date			4/7/03	4/7/03	4/7/03	4/7/03	4/8/03	4/8/03	4/8/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8	0.29 U	0.29 U	0.38	0.58	0.35	0.28 U	0.29
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	87 U	83 U	89 U	89 U	87 U	82 U	85 U
2-Methylnaphthalene	91-57-6	83,000	87 U	83 U	89 U	89 U	87 U	82 U	85 U
Acenaphthene	83-32-9	1,900,000	170 U	170 U	180 U	180 U	170 U	160 U	170 U
Acenaphthylene	208-96-8	1,100,000	170 U	170 U	180 U	180 U	170 U	160 U	170 U
Anthracene	120-12-7	18,000,000	170 U	170 U	180 U	180 U	170 U	160 U	170 U
Benzo(a)anthracene	56-55-3	1,400	87 U	83 U	89 U	89 U	87 U	82 U	85 U
Benzo(a)pyrene	50-32-8	100	39.9 J	96	93.3	297	95.2	58 J	124
Benzo(b)fluoranthene	205-99-2	1,400	27.9 J	69	86.6	154	81.3	49.8 J	107
Benzo(g,h,i)perylene	191-24-2	2,300,000	53.1 J	106	110	311	86.3	54.9 J	111
Benzo(k)fluoranthene	207-08-9	15,000	33.8 J	67	70 J	128	55.9 J	36 J	72.7
Chrysene	218-01-9	140,000	87 U	83 U	89 U	89 U	87 U	82 U	85 U
Dibenzo(a,h)anthracene	53-70-3	100	17 U	17 U	18 U	18 U	17 U	16 U	17 U
Fluoranthene	206-44-0	2,900,000	87 U	83 U	89 U	133 J	87 U	82 U	85 U
Fluorene	86-73-7	2,200,000	170 U	170 U	180 U	180 U	170 U	160 U	170 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	34.9 J	87.1	96.6	171	88	52.2 J	101
Naphthalene	91-20-3	40,000	87 U	83 U	89 U	89 U	87 U	82 U	85 U
Phenanthrene	85-01-8	2,000,000	170 U	170 U	180 U	180 U	170 U	160 U	170 U
Pyrene	129-00-0	2,200,000	87 U	93.9 J	98.3 J	179 J	87 U	82 U	85 U
Miscellaneous (%)									
Percent Solids	TTNUS291		97	96.9	95.7	96.1	96.8	96.9	96.2

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TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Sample Location	CAS No.	SCTL (Residential)	23	24	25	26	27	28	28
Sample ID			NTC55S02302	NTC55S02402	NTC55S02502	NTC55S02602	NTC55S02702	NTC55S02802	NTC55S02802-D
Sample Date			4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8	0.42	0.44	0.57	0.35	0.5	0.52	0.48
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	81 U	85 U	84 U	88 U	86 U	85 U	88 U
2-Methylnaphthalene	91-57-6	83,000	81 U	85 U	84 U	88 U	86 U	85 U	88 U
Acenaphthene	83-32-9	1,900,000	160 U	170 U	170 U	180 U	170 U	170 U	180 U
Acenaphthylene	208-96-8	1,100,000	160 U	170 U	170 U	180 U	170 U	170 U	180 U
Anthracene	120-12-7	18,000,000	160 U	170 U	170 U	180 U	170 U	170 U	180 U
Benzo(a)anthracene	56-55-3	1,400	81 U	85 U	84 U	88 U	86 U	85 U	88 U
Benzo(a)pyrene	50-32-8	100	352	264	187	242	537	180	167
Benzo(b)fluoranthene	205-99-2	1,400	292	214	151	199	429	152	145
Benzo(g,h,i)perylene	191-24-2	2,300,000	295	222	165	225	449	176	160
Benzo(k)fluoranthene	207-08-9	15,000	217	154	111	146	310	115	104
Chrysene	218-01-9	140,000	241 J	200 J	84 U	88 U	366	85 U	88 U
Dibenzo(a,h)anthracene	53-70-3	100	65 U	68 U	67 U	70 U	122	68 U	70 U
Fluoranthene	206-44-0	2,900,000	226 J	170 J	121 J	140 J	316 J	115 J	115 J
Fluorene	86-73-7	2,200,000	160 U	170 U	170 U	180 U	170 U	170 U	180 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	275	188	147	197 U	379	143	134
Naphthalene	91-20-3	40,000	81 U	85 U	84 U	88 U	86 U	85 U	88 U
Phenanthrene	85-01-8	2,000,000	160 U	170 U	170 U	180 U	170 U	170 U	180 U
Pyrene	129-00-0	2,200,000	244 J	194 J	144 J	152 J	393	141 J	154 J
Miscellaneous (%)									
Percent Solids	TTNUS291		96.5	98	97	97.1	96.8	97.3	97.2

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Sample Location	CAS No.	SCTL (Residential)	29	30	31	32	33	33	34
Sample ID			NTC55S02902	NTC55S03002	NTC55S03102	NTC55S03202	NTC55S03302	NTC55S03302-D	NTC55S03402
Sample Date			4/8/03	4/8/03	5/21/03	5/21/03	5/21/03	5/21/03	5/21/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8	0.57	0.45					
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	82 U	86 U	86 U	87 U	86 U	80 U	82 U
2-Methylnaphthalene	91-57-6	83,000	82 U	86 U	86 U	87 U	86 U	80 U	82 U
Acenaphthene	83-32-9	1,900,000	160 U	170 U	170 U	170 U	170 U	160 U	160 U
Acenaphthylene	208-96-8	1,100,000	160 U	170 U	170 U	170 U	170 U	160 U	160 U
Anthracene	120-12-7	18,000,000	160 U	170 U	170 U	170 U	170 U	160 U	160 U
Benzo(a)anthracene	56-55-3	1,400	82 U	86 U	86 U	87 U	86 U	80 U	82 U
Benzo(a)pyrene	50-32-8	100	256	222	138	30.4 J	17 U	16 U	74
Benzo(b)fluoranthene	205-99-2	1,400	214	177	111	25 J	17 U	16 U	56.1 J
Benzo(g,h,i)perylene	191-24-2	2,300,000	233	210	130	30.3 J	17 U	16 U	66.9
Benzo(k)fluoranthene	207-08-9	15,000	162	148	73.5	21 J	17 U	16 U	44.2 J
Chrysene	218-01-9	140,000	186 J	86 U	104 J	87 U	86 U	80 U	82 U
Dibenzo(a,h)anthracene	53-70-3	100	66 U	69 U	26.5 J	17 U	17 U	16 U	16 U
Fluoranthene	206-44-0	2,900,000	168 J	115 J	98.9 J	87 U	86 U	80 U	82 U
Fluorene	86-73-7	2,200,000	160 U	170 U	170 U	170 U	170 U	160 U	160 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	196	159	125	27.3 J	17 U	16 U	63.9 J
Naphthalene	91-20-3	40,000	82 U	86 U	86 U	87 U	86 U	80 U	82 U
Phenanthrene	85-01-8	2,000,000	160 U	170 U	170 U	170 U	170 U	160 U	160 U
Pyrene	129-00-0	2,200,000	190 J	145 J	108 J	87 U	86 U	80 U	82 U
Miscellaneous (%)									
Percent Solids	TTNUS291		97.5	96.6	96.3	96.9	98	97.8	96.8



TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Sample Location	CAS No.	SCTL (Residential)	35	36	37	38	39	40	41
Sample ID			NTC55S03502	NTC55S03602	NTC55S03702	NTC55S03802	NTC55S03902	NTC55S04002	NTC55S04102
Sample Date			5/21/03	5/21/03	5/13/03	5/13/03	5/21/03	5/13/03	5/13/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	86 U	350 U	85 U	85 UJ	82 U	85 U	84 U
2-Methylnaphthalene	91-57-6	83,000	86 U	350 U	85 U	85 UJ	82 U	85 U	340 U
Acenaphthene	83-32-9	1,900,000	170 U	180 U	170 U	170 UJ	160 U	170 U	170 U
Acenaphthylene	208-96-8	1,100,000	170 U	180 U	170 U	170 U	160 U	170 U	170 U
Anthracene	120-12-7	18,000,000	170 U	180 U	170 U	170 U	160 U	170 U	170 U
Benzo(a)anthracene	56-55-3	1,400	86 U	316 J	85 U	85 U	82 U	85 U	176 J
Benzo(a)pyrene	50-32-8	100	146	1010	39.8 J	48.6 J	105	96	576
Benzo(b)fluoranthene	205-99-2	1,400	104	682	34.6 J	43.2 J	67.4	73.2	417
Benzo(g,h,i)perylene	191-24-2	2,300,000	134	721	28.5 J	33.8 J	94.6	88.5	406
Benzo(k)fluoranthene	207-08-9	15,000	88.5	491	28.3 J	26.8 J	44.6 J	46.9 J	310
Chrysene	218-01-9	140,000	86 U	567	85 U	85 U	82 U	85 U	399
Dibenzo(a,h)anthracene	53-70-3	100	25.2 J	163	17 U	17 U	16 U	17.3 J	88.2
Fluoranthene	206-44-0	2,900,000	86 U	471	85 U	85 U	82 U	99.5 J	342 J
Fluorene	86-73-7	2,200,000	170 U	180 U	170 U	170 U	160 U	170 U	170 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	110	696	35.9 J	37.9 J	84.2	77.3	379
Naphthalene	91-20-3	40,000	86 U	88 U	85 U	85 U	82 U	85 U	84 U
Phenanthrene	85-01-8	2,000,000	170 U	180 U	170 U	170 U	160 U	170 U	170 U
Pyrene	129-00-0	2,200,000	86 U	531	85 U	85 UJ	82 U	85 U	486 J
Miscellaneous (%)									
Percent Solids	TTNUS291		96.3	96.3	96.1	96.7	97.9	96.9	96.7

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Sample Location	CAS No.	SCTL (Residential)	41	42	43	44	45	46	47
Sample ID			NTC55S04102-D	NTC55S04202	NTC55S04302	NTC55S04402	NTC55S04502	NTC55S04602	NTC55S04702
Sample Date			5/13/03	5/21/03	5/13/03	5/21/03	5/13/03	5/21/03	5/21/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	84 U	87 U	340 U	87 U	85 U	85 U	81 U
2-Methylnaphthalene	91-57-6	83,000	340 U	87 U	2800 U	350 U	85 U	340 U	81 U
Acenaphthene	83-32-9	1,900,000	170 U	170 U	690 U	170 U	170 U	170 U	160 U
Acenaphthylene	208-96-8	1,100,000	170 U	170 U	690 U	170 U	170 U	170 U	160 U
Anthracene	120-12-7	18,000,000	170 U	170 U	690 U	170 U	170 U	170 U	160 U
Benzo(a)anthracene	56-55-3	1,400	426 J	87 U	2030	125 J	85 U	128 J	81 U
Benzo(a)pyrene	50-32-8	100	694	384	5210	462	33.7 J	708	215
Benzo(b)fluoranthene	205-99-2	1,400	505	285	3300	329	33.6 J	489	155
Benzo(g,h,i)perylene	191-24-2	2,300,000	436	299	2880	392	29.8 J	580	169
Benzo(k)fluoranthene	207-08-9	15,000	344	194	2480	247	25.8 J	357	99.5
Chrysene	218-01-9	140,000	647	231 J	2440	261 J	85 U	399	132 J
Dibenzo(a,h)anthracene	53-70-3	100	111	68.6 J	1110	71.1	17 U	119	35.8 J
Fluoranthene	206-44-0	2,900,000	867 J	161 J	1780	244 J	85 U	319 J	96.7 J
Fluorene	86-73-7	2,200,000	170 U	170 U	690 U	170 U	170 U	170 U	160 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	425	289	2860	323	31.9 J	499	155
Naphthalene	91-20-3	40,000	84 U	87 U	340 U	87 U	85 U	85 U	81 U
Phenanthrene	85-01-8	2,000,000	170 U	170 U	690 U	170 U	170 U	170 U	160 U
Pyrene	129-00-0	2,200,000	876 J	210 J	2640	308 J	85 U	352	112 J
Miscellaneous (%)									
Percent Solids	TTNUS291		97.2	97	96.6	95.9	96.9	95.9	98.5

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Sample Location	CAS No.	SCTL (Residential)	48	49	50	51	52	53	54
Sample ID			NTC55S04802	NTC55S04902	NTC55S05002	NTC55S05102	NTC55S05202	NTC55S05302	NTC55S05402
Sample Date			5/21/03	5/13/03	5/13/03	5/21/03	5/21/03	5/21/03	5/21/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	86 U	84 U	86 U	87 U	81 U	85 U	83 U
2-Methylnaphthalene	91-57-6	83,000	86 U	84 U	86 U	87 U	81 U	85 U	83 U
Acenaphthene	83-32-9	1,900,000	170 U	170 U	170 U	170 U	160 U	170 U	170 U
Acenaphthylene	208-96-8	1,100,000	170 U	170 U	170 U	170 U	160 U	170 U	170 U
Anthracene	120-12-7	18,000,000	170 U	170 U	170 U	170 U	160 U	170 U	170 U
Benzo(a)anthracene	56-55-3	1,400	86 U	84 U	185 J	87 U	81 U	85 U	83 U
Benzo(a)pyrene	50-32-8	100	27.8 J	107	576	246	128	76.4	222
Benzo(b)fluoranthene	205-99-2	1,400	21.2 J	75.8	397	199	102	59.3 J	163
Benzo(g,h,i)perylene	191-24-2	2,300,000	24.8 J	82.2	448	238	116	69.5	191
Benzo(k)fluoranthene	207-08-9	15,000	17 U	64 J	335	150	80.2	39 J	125
Chrysene	218-01-9	140,000	86 U	84 U	319 J	178 J	81 U	85 U	83 U
Dibenzo(a,h)anthracene	53-70-3	100	17 U	17 U	75.5	40.1 J	23 J	17 U	39.3 J
Fluoranthene	206-44-0	2,900,000	86 U	84 U	260 J	184 J	81 U	85 U	99.4 J
Fluorene	86-73-7	2,200,000	170 U	170 U	170 U	170 U	160 U	170 U	170 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	23.7 J	80.4	410	191	110	67.9 J	180
Naphthalene	91-20-3	40,000	86 U	84 U	86 U	87 U	81 U	85 U	83 U
Phenanthrene	85-01-8	2,000,000	170 U	170 U	170 U	170 U	160 U	170 U	170 U
Pyrene	129-00-0	2,200,000	86 U	84 U	317 J	231 J	82.4 J	85 U	112 J
Miscellaneous (%)									
Percent Solids	TTNUS291		97.1	96.1	96	97.3	98.6	98.1	96.1

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Sample Location	CAS No.	SCTL (Residential)	55	56	57	57	58	59a	59b
Sample ID			NTC55S05502	NTC55S05602	NTC55S05702	NTC55S05702-D	NTC55S05802	NTC55S05902	NTC55S05902-X
Sample Date			5/21/03	5/21/03	5/21/03	5/21/03	5/21/03	5/21/03	6/12/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	89 U	85 U	86 UJ	2550 J	83 U	87 U	340 U
2-Methylnaphthalene	91-57-6	83,000	89 U	85 U	340 UJ	4080 J	83 U	350 U	340 U
Acenaphthene	83-32-9	1,900,000	180 U	170 U	170 U	350 U	170 U	170 U	170 U
Acenaphthylene	208-96-8	1,100,000	180 U	170 U	170 U	350 U	170 U	170 U	170 U
Anthracene	120-12-7	18,000,000	180 U	170 U	170 U	350 U	170 U	170 U	170 U
Benzo(a)anthracene	56-55-3	1,400	89 U	85 U	86 U	209 J	83 U	87 U	196 J
Benzo(a)pyrene	50-32-8	100	159	207	319	423	143	393	235
Benzo(b)fluoranthene	205-99-2	1,400	125	173	248	366	118	288	552
Benzo(g,h,i)perylene	191-24-2	2,300,000	159	217	295	346	135	330	372
Benzo(k)fluoranthene	207-08-9	15,000	92.4	122	195	247	82.8	196	192
Chrysene	218-01-9	140,000	107 J	152 J	206 J	310 J	134 J	253 J	307 J
Dibenzo(a,h)anthracene	53-70-3	100	31 J	36.9 J	55.3 J	75 J	26.1 J	65.4 J	65.2 J
Fluoranthene	206-44-0	2,900,000	110 J	149 J	200 J	399 J	104 J	234 J	247 J
Fluorene	86-73-7	2,200,000	180 U	170 U	170 U	350 U	170 U	170 U	170 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	125	173	246	324	121	299	302
Naphthalene	91-20-3	40,000	89 U	85 U	86 UJ	1370 J	83 U	87 U	86 U
Phenanthrene	85-01-8	2,000,000	180 U	170 U	170 U	350 U	170 U	170 U	170 U
Pyrene	129-00-0	2,200,000	141 J	167 J	242 J	366 J	109 J	324 J	256 J
Miscellaneous (%)									
Percent Solids	TTNUS291		96.4	96.4	96.5	96.3	97.7	96.1	94.9

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

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Sample Location	CAS No.	SCTL (Residential)	60a	60b	60	61	62	63	64
Sample ID			NTC55S06002	NTC55S06002-D	NTC55S06002-X	NTC55S06102	NTC55S06202	NTC55S06302	NTC55S06402
Sample Date			5/21/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	87 U	86 U	350 U	340 U	87 U	86 U	86 U
2-Methylnaphthalene	91-57-6	83,000	87 U	86 U	350 U	340 U	87 U	350 U	86 U
Acenaphthene	83-32-9	1,900,000	170 U	170 U	170 U	170 U	170 U	170 U	170 U
Acenaphthylene	208-96-8	1,100,000	170 U	170 U	170 U	170 U	170 U	170 U	170 U
Anthracene	120-12-7	18,000,000	170 U	170 U	170 U	170 U	170 U	170 U	170 U
Benzo(a)anthracene	56-55-3	1,400	87 U	86 UJ	236 J	327 J	87 U	86 U	86 U
Benzo(a)pyrene	50-32-8	100	347	17 UJ	348 J	264	70 U	98.1	17 U
Benzo(b)fluoranthene	205-99-2	1,400	243	85.5 J	508 J	639	17 U	211	17 U
Benzo(g,h,i)perylene	191-24-2	2,300,000	272	17 UJ	392 J	491	17 U	163	17 U
Benzo(k)fluoranthene	207-08-9	15,000	209	17 UJ	203 J	271	17 U	80.2	17 U
Chrysene	218-01-9	140,000	226 J	86 UJ	342 J	407	87 U	86 U	86 U
Dibenzo(a,h)anthracene	53-70-3	100	51.5 J	17 UJ	69.1 J	86.9	17 U	37.3 J	17 U
Fluoranthene	206-44-0	2,900,000	171 J	86 UJ	275 J	422	87 U	131 J	86 U
Fluorene	86-73-7	2,200,000	170 U	170 U	170 U	170 U	170 U	170 U	170 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	232	17 UJ	306 J	390	17 U	17 U	17 U
Naphthalene	91-20-3	40,000	87 U	86 U	86 U	86 U	87 U	86 U	86 U
Phenanthrene	85-01-8	2,000,000	170 U	170 U	170 U	170 U	170 U	170 U	170 U
Pyrene	129-00-0	2,200,000	224 J	86 UJ	275 J	487	87 U	136 J	86 U
Miscellaneous (%)									
Percent Solids	TTNUS291		96.3	95.2	95.3	94.9	95.5	94.6	95.4

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
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Sample Location	CAS No.	SCTL (Residential)	66	67	68	69	70	71	71
Sample ID			NTC55S06602	NTC55S06702	NTC55S06802	NTC55S06902	NTC55S07002	NTC55S07102	NTC55S07102-D
Sample Date			6/12/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	87 U	95 U	86 U	87 U	86 U	86 U	86 U
2-Methylnaphthalene	91-57-6	83,000	87 U	95 U	86 U	87 U	340 U	86 U	86 U
Acenaphthene	83-32-9	1,900,000	170 U	190 U	170 U	170 U	170 U	170 U	170 U
Acenaphthylene	208-96-8	1,100,000	170 U	190 U	170 U	170 U	170 U	170 U	170 U
Anthracene	120-12-7	18,000,000	170 U	190 U	170 U	170 U	170 U	170 U	170 U
Benzo(a)anthracene	56-55-3	1,400	87 U	95 U	86 U	87 U	86 U	86 U	86 U
Benzo(a)pyrene	50-32-8	100	17 U	19 U	124	17 U	103	43.8 J	17 U
Benzo(b)fluoranthene	205-99-2	1,400	17 U	76 U	203	17 U	254	87.7	68 U
Benzo(g,h,i)perylene	191-24-2	2,300,000	17 U	19 U	199	17 U	174	17 U	17 U
Benzo(k)fluoranthene	207-08-9	15,000	17 U	19 U	90.1	17 U	102	17 U	17 U
Chrysene	218-01-9	140,000	87 U	95 U	86 U	87 U	188 J	86 U	86 U
Dibenzo(a,h)anthracene	53-70-3	100	17 U	19 U	37.2 J	17 U	32 J	17 U	17 U
Fluoranthene	206-44-0	2,900,000	87 U	95 U	102 J	87 U	194 J	86 U	86 U
Fluorene	86-73-7	2,200,000	170 U	190 U	170 U	170 U	170 U	170 U	170 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	17 U	19 U	172	17 U	170	17 U	17 U
Naphthalene	91-20-3	40,000	87 U	95 U	86 U	87 U	86 U	86 U	86 U
Phenanthrene	85-01-8	2,000,000	170 U	190 U	170 U	170 U	170 U	170 U	170 U
Pyrene	129-00-0	2,200,000	87 U	95 U	116 J	87 U	200 J	92.4 J	86 U
Miscellaneous (%)									
Percent Solids	TTNUS291		95	86.5	95.2	95.4	93.8	95.5	95.2

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
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Sample Location	CAS No.	SCTL (Residential)	72	73	74	75	76	77	78
Sample ID			NTC55S07202	NTC55S07302	NTC55S07402	NTC55S07502	NTC55S07602	NTC55S07702	NTC55S07802
Sample Date			6/12/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	85 U	86 U	85 U	86 U	84 U	87 U	86 U
2-Methylnaphthalene	91-57-6	83,000	85 U	86 U	85 U	86 U	84 U	87 U	86 U
Acenaphthene	83-32-9	1,900,000	170 U	170 U	170 U	170 U	170 U	170 U	170 U
Acenaphthylene	208-96-8	1,100,000	170 U	170 U	170 U	170 U	170 U	170 U	170 U
Anthracene	120-12-7	18,000,000	170 U	170 U	170 U	170 U	170 U	170 U	170 U
Benzo(a)anthracene	56-55-3	1,400	85 U	86 U	85 U	86 U	84 U	138 J	86 U
Benzo(a)pyrene	50-32-8	100	17 U	17 U	59.6 J	17 U	17 U	143	77.1
Benzo(b)fluoranthene	205-99-2	1,400	68 U	69 U	108	17 U	67 U	347	149
Benzo(g,h,i)perylene	191-24-2	2,300,000	17 U	17 U	127	17 U	17 U	250	120
Benzo(k)fluoranthene	207-08-9	15,000	17 U	17 U	41.9 J	17 U	17 U	128	66.2 J
Chrysene	218-01-9	140,000	85 U	86 U	85 U	86 U	84 U	245 J	86 U
Dibenzo(a,h)anthracene	53-70-3	100	17 U	17 U	17 U	17 U	17 U	43.8 J	17 U
Fluoranthene	206-44-0	2,900,000	85 U	86 U	85 U	86 U	84 U	253 J	114 J
Fluorene	86-73-7	2,200,000	170 U	170 U	170 U	170 U	170 U	170 U	170 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	17 U	17 U	17 U	17 U	17 U	200	17 U
Naphthalene	91-20-3	40,000	85 U	86 U	85 U	86 U	84 U	87 U	86 U
Phenanthrene	85-01-8	2,000,000	170 U	170 U	170 U	170 U	170 U	170 U	170 U
Pyrene	129-00-0	2,200,000	85 U	86 U	85 U	86 U	84 U	246 J	122 J
Miscellaneous (%)									
Percent Solids	TTNUS291		95.9	95.5	95.8	95.1	95.7	95.3	95.8

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
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Sample Location	CAS No.	SCTL (Residential)	79	80	81	82	83	84	85
Sample ID			NTC55S07902	NTC55S08002	NTC55S08102	NTC55S08202	NTC55S08302	NTC55S08402	NTC55S08502
Sample Date			6/12/03	6/12/03	7/10/03	7/10/03	7/10/03	7/10/03	7/10/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	4200 U	88 U	88 U	88 U	88 U	88 U	85 U
2-Methylnaphthalene	91-57-6	83,000	4200 U	88 U	88 U	88 U	88 U	88 U	85 U
Acenaphthene	83-32-9	1,900,000	690 U	180 U	180 U	180 U	180 U	180 U	170 U
Acenaphthylene	208-96-8	1,100,000	690 U	180 U	180 U	180 U	180 U	180 U	170 U
Anthracene	120-12-7	18,000,000	690 U	180 U	180 U	180 U	180 U	180 U	170 U
Benzo(a)anthracene	56-55-3	1,400	1950	88 U	88 U	88 U	88 U	88 U	529 J
Benzo(a)pyrene	50-32-8	100	1900	70 U	52.8 J	37.9 J	151	101	545 J
Benzo(b)fluoranthene	205-99-2	1,400	2870	18 U	86.2	63.8 J	276	203	725 J
Benzo(g,h,i)perylene	191-24-2	2,300,000	2180	18 U	75.8	50.1 J	211	150	590 J
Benzo(k)fluoranthene	207-08-9	15,000	1120	18 U	33.5 J	20 J	104	86.6	354 J
Chrysene	218-01-9	140,000	1720	88 U	88 U	88 U	180 J	140 J	832 J
Dibenzo(a,h)anthracene	53-70-3	100	351	18 U	18 U	18 U	43.1 J	25.6 J	90.8 J
Fluoranthene	206-44-0	2,900,000	1200 J	88 U	88 U	88 U	186 J	138 J	1290 J
Fluorene	86-73-7	2,200,000	690 U	180 U	180 U	180 U	180 U	180 U	170 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	1700	18 U	58.8 J	45 J	171	115	587 J
Naphthalene	91-20-3	40,000	340 U	88 U	88 U	88 U	88 U	88 U	85 U
Phenanthrene	85-01-8	2,000,000	690 U	180 U	180 U	180 U	180 U	180 U	208 J
Pyrene	129-00-0	2,200,000	1360 J	88 U	88 U	88 U	196 J	145 J	1410 J
Miscellaneous (%)									
Percent Solids	TTNUS291		94.2	93.6	96.1	95.9	96.5	96.1	96.1



TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

PAGE 13 OF 15

Sample Location	CAS No.	SCTL (Residential)	85	86	87	88	89	90	91
Sample ID			NTC55S08502-D	NTC55S08602	NTC55S08702	NTC55S08802	NTC55S08902	NTC55S09002	NTC55S09102
Sample Date			7/10/03	7/10/03	7/24/03	7/24/03	7/24/03	7/24/03	7/24/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	0-2
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	88 U	86 U	88 U	87 U	85 U	85 U	89 U
2-Methylnaphthalene	91-57-6	83,000	88 U	86 U	88 U	87 U	85 U	85 U	89 U
Acenaphthene	83-32-9	1,900,000	180 U	170 U	180 U	170 U	170 U	170 U	180 U
Acenaphthylene	208-96-8	1,100,000	180 U	170 U	180 U	170 U	170 U	170 U	180 U
Anthracene	120-12-7	18,000,000	180 U	170 U	180 U	170 U	170 U	170 U	180 U
Benzo(a)anthracene	56-55-3	1,400	88 UJ	86 U	88 U	87 U	85 U	85 U	89 U
Benzo(a)pyrene	50-32-8	100	18 UJ	66.6 J	145	19.6 J	29 J	17 U	18 U
Benzo(b)fluoranthene	205-99-2	1,400	18 UJ	142	266	34.3 J	49.7 J	17 U	18 U
Benzo(g,h,i)perylene	191-24-2	2,300,000	18 UJ	116	215	17 U	42.2 J	17 U	18 U
Benzo(k)fluoranthene	207-08-9	15,000	18 UJ	65.5 J	103	17 U	17 U	17 U	18 U
Chrysene	218-01-9	140,000	88 UJ	86 U	155 J	87 U	85 U	85 U	89 U
Dibenzo(a,h)anthracene	53-70-3	100	18 UJ	19.9 J	35.5 J	17 U	17 U	17 U	18 U
Fluoranthene	206-44-0	2,900,000	88 UJ	148 J	157 J	87 U	85 U	85 U	89 U
Fluorene	86-73-7	2,200,000	180 U	170 U	180 U	170 U	170 U	170 U	180 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	18 UJ	57.3 J	170	17 U	38.8 J	17 U	18 U
Naphthalene	91-20-3	40,000	88 U	86 U	88 U	87 U	85 U	85 U	89 U
Phenanthrene	85-01-8	2,000,000	180 U	170 U	180 U	170 U	170 U	170 U	180 U
Pyrene	129-00-0	2,200,000	88 UJ	158 J	169 J	87 U	85 U	85 U	89 U
Miscellaneous (%)									
Percent Solids	TTNUS291		96.4	97	95.4	95.9	95.9	95.7	95.8

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

PAGE 14 OF 15

Sample Location	CAS No.	SCTL (Residential)	92	93	94	95	95	100	
Sample ID			NTC55S09202	NTC55S09302	NTC55S09402	NTC55S09502	NTC55S09502-D	NTC55S10002	NTC55U10003
Sample Date			7/24/03	7/24/03	7/24/03	7/24/03	7/24/03	7/10/03	7/10/03
Sample Depth (ft bgs)			0-2	0-2	0-2	0-2	0-2	0-2	2-3
Metal (mg/kg)									
Arsenic	7440-38-2	0.8							
PAHs (µg/kg)									
1-Methylnaphthalene	90-12-0	68,000	88 U	87 U	88 U	88 U	86 U	86 U	89 U
2-Methylnaphthalene	91-57-6	83,000	88 U	87 U	88 U	88 U	86 U	86 U	89 U
Acenaphthene	83-32-9	1,900,000	180 U	170 U	180 U	180 U	170 U	170 U	180 U
Acenaphthylene	208-96-8	1,100,000	180 U	170 U	180 U	180 U	170 U	170 U	180 U
Anthracene	120-12-7	18,000,000	180 U	170 U	180 U	180 U	170 U	170 U	180 U
Benzo(a)anthracene	56-55-3	1,400	88 U	87 U	88 U	88 U	86 U	118 J	89 U
Benzo(a)pyrene	50-32-8	100	18 U	17 U	18 U	18 U	17 U	243	18 U
Benzo(b)fluoranthene	205-99-2	1,400	18 U	17 U	18 U	18 U	17 U	400	22.5 J
Benzo(g,h,i)perylene	191-24-2	2,300,000	18 U	17 U	18 U	18 U	17 U	340	18 U
Benzo(k)fluoranthene	207-08-9	15,000	18 U	17 U	18 U	18 U	17 U	190	18 U
Chrysene	218-01-9	140,000	88 U	87 U	88 U	88 U	86 U	262 J	89 U
Dibenzo(a,h)anthracene	53-70-3	100	18 U	17 U	18 U	18 U	17 U	59.7 J	18 U
Fluoranthene	206-44-0	2,900,000	88 U	87 U	88 U	88 U	86 U	291 J	89 U
Fluorene	86-73-7	2,200,000	180 U	170 U	180 U	180 U	170 U	170 U	180 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	18 U	17 U	18 U	18 U	17 U	259	18 U
Naphthalene	91-20-3	40,000	88 U	87 U	88 U	88 U	86 U	86 U	89 U
Phenanthrene	85-01-8	2,000,000	180 U	170 U	180 U	180 U	170 U	170 U	180 U
Pyrene	129-00-0	2,200,000	88 U	87 U	88 U	88 U	86 U	316 J	89 U
Miscellaneous (%)									
Percent Solids	TTNUS291		95.6	95.6	95.7	95.2	95.4	97.6	96.1

TABLE B-1

SOIL ANALYTICAL RESULTS  
STUDY AREA 55NAVAL TRAINING CENTER  
ORLANDO, FLORIDA

PAGE 15 OF 15

Sample Location	CAS No.	SCTL (Residential)	101	
Sample ID			NTC55S10102	NTC55U10103
Sample Date			7/10/03	7/10/03
Sample Depth (ft bgs)			0-2	2-3
<b>Metal (mg/kg)</b>				
Arsenic	7440-38-2	0.8		
<b>PAHs (µg/kg)</b>				
1-Methylnaphthalene	90-12-0	68,000	340 U	84 U
2-Methylnaphthalene	91-57-6	83,000	340 U	84 U
Acenaphthene	83-32-9	1,900,000	170 U	170 U
Acenaphthylene	208-96-8	1,100,000	170 U	170 U
Anthracene	120-12-7	18,000,000	170 U	170 U
Benzo(a)anthracene	56-55-3	1,400	171 J	84 U
Benzo(a)pyrene	50-32-8	100	270	17 U
Benzo(b)fluoranthene	205-99-2	1,400	335	17 U
Benzo(g,h,i)perylene	191-24-2	2,300,000	311	17 U
Benzo(k)fluoranthene	207-08-9	15,000	139	17 U
Chrysene	218-01-9	140,000	188 J	84 U
Dibenzo(a,h)anthracene	53-70-3	100	45.9 J	17 U
Fluoranthene	206-44-0	2,900,000	154 J	84 U
Fluorene	86-73-7	2,200,000	170 U	170 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,500	222	17 U
Naphthalene	91-20-3	40,000	84 U	84 U
Phenanthrene	85-01-8	2,000,000	170 U	170 U
Pyrene	129-00-0	2,200,000	172 J	84 U
<b>Miscellaneous (%)</b>				
Percent Solids	TTNUS291		97.4	96

J = Estimated value.

Shaded cells indicate result exceeds Residential SCTL.

U = non-detect.

D = duplicate sample

X = second time sample location name used

## **APPENDIX C**

### **PRO UCL CALCULATIONS**

From File	C:\ProUCL\Data\SA 55 bap_equiv.XLS				
Summary Statistics for		Benzo(a)pyrene (equivalent))	Summary Statistics for		ln(Benzo(a)pyrene (equivalent))
Number of Samples		89	Minimum		3.110132
Minimum		22.424	Maximum		8.877136
Maximum		7166.24	Mean		4.957768
Mean		335.3744551	Standard Deviation		1.218283
Median		150.941	Variance		1.484213
Standard Deviation		822.2032088			
Variance		676018.1166	Lilliefors Test Statistic		0.07711
Coefficient of Variation		2.451597599	Lilliefors 5% Critical Value		0.093916
Skewness		7.04090877	Data are Lognormal at 5% Significance Level		
Lilliefors Test Statistic		0.351741105	Estimates Assuming Lognormal Distribution		
Lilliefors 5% Critical Value		0.093915812	MLE Mean		298.83
Data not Normal at 5% Significance Level			MLE Standard Deviation		551.9457
Data are Lognormal: Try Lognormal UCLs			MLE Coefficient of Variation		1.847023
			MLE Skewness		11.84217
95 % UCL (Assuming Normal Data)			MLE Median		142.2759
Student's-t		480.2541793	MLE 80% Quantile		398.3046
			MLE 90% Quantile		680.7953
95 % UCL (Adjusted for Skewness)			MLE 95% Quantile		1055.578
Adjusted-CLT		548.2311435	MLE 99% Quantile		2419.93
Modified-t		491.0951115			
			MVU Estimate of Median		141.0944
95 % Non-parametric UCL			MVU Estimate of Mean		294.6174
CLT		478.728985	MVU Estimate of Std. Dev.		514.1268
Jackknife		480.2541793	MVU Estimate of SE of Mean		48.4512
Standard Bootstrap		481.9441478			
Bootstrap-t		750.3432696	UCL Assuming Lognormal Distribution		
Chebyshev (Mean, Std)		715.2671693	95% H-UCL		410.0006
			95% Chebyshev (MVUE) UCL		505.8113
			99% Chebyshev (MVUE) UCL		776.7007
			Recommended UCL to use:		
			H-UCL		

From File C:\ProUCL\Data\SA 55 bap_equiv proposed excavation.XLS							
Summary Statistics for		bap(eq) w 10		Summary Statistics for		ln(bap(eq) w 10)	
Number of Samples		89		Minimum		2.302585	
Minimum		10		Maximum		5.649397	
Maximum		284.12		Mean		3.613259	
Mean		69.0641573		Standard Deviation		1.168372	
Median		25.73		Variance		1.365093	
Standard Deviation		72.62061016					
Variance		5273.75302		Lilliefors Test Statistic		0.21734	
Coefficient of Variation		1.051494914		Lilliefors 5% Critical Value		0.093916	
Skewness		1.160327802		Data not Lognormal at 5% Significance Level			
				Data not Normal: Try Non-parametric UCL			
95 % UCL (Assuming Normal Data)							
Student's-t		81.86057291		Estimates Assuming Lognormal Distribution			
				MLE Mean		73.39133	
95 % UCL (Adjusted for Skewness)				MLE Standard Deviation		125.3271	
Adjusted-CLT		82.73751269		MLE Coefficient of Variation		1.707655	
Modified-t		82.01837013		MLE Skewness		10.10264	
				MLE Median		37.08674	
95 % Non-parametric UCL				MLE 80% Quantile		99.53742	
CLT		81.72586103		MLE 90% Quantile		166.4371	
Jackknife		81.86057291		MLE 95% Quantile		253.4664	
Standard Bootstrap		81.69628803		MLE 99% Quantile		561.6576	
Bootstrap-t		82.55519029					
Chebyshev (Mean, Std)		102.6179557		MVU Estimate of Median		36.80338	
				MVU Estimate of Mean		72.46999	
				MVU Estimate of Std. Dev.		117.6787	
				MVU Estimate of SE of Mean		11.26696	
				UCL Assuming Lognormal Distribution			
				95% H-UCL		98.76647	
				95% Chebyshev (MVUE) UCL		121.5815	
				99% Chebyshev (MVUE) UCL		184.5748	



General Statistics

From File	C:\ProUCL\Data\SA 55 bap_equiv.XLS	
Summary Statistics for	Benzo(a)pyrene	
Number of Samples	89	
Minimum	22.424	
Maximum	7166.24	
Mean	335.3744551	
Median	150.941	
Standard Deviation	822.2032088	
Variance	676018.1166	
Coefficient of Variation	2.451597599	
Skewness	7.04090877	
Lilliefors Test Statistic	0.351741105	
Lilliefors 5% Critical Value	0.093915812	
Data not Normal at 5% Significance Level		
Data are Lognormal: Try Lognormal UCLs		
95 % UCL (Assuming Normal Data)		
Student's-t	480.2541793	
95 % UCL (Adjusted for Skewness)		
Adjusted-CLT	548.2311435	
Modified-t	491.0951115	
95 % Non-parametric UCL		
CLT	478.728985	
Jackknife	480.2541793	
Standard Bootstrap	481.9441478	
Bootstrap-t	750.3432696	
Chebyshev (Mean, Std)	715.2671693	



**APPENDIX D**  
**INTERIM REMEDIAL ACTION INFORMATION**



TECHNICAL MEMORANDUM

## Summary of Soil Removal Activities and Results Study Area 55, Naval Training Center Orlando Florida

PREPARED FOR: Barbara Nwokike – NAVFAC EFD SOUTH  
Steve McCoy – TetraTech NUS  
David Grabka – FDEP  
Greg Fraley – EPA

PREPARED BY: Steve Tsangaris – AGVIQ-CH2M HILL Joint Venture II (JV-II)

COPIES: Lt. Jorge Cuadros – ROICC Office  
Barbara Czinder – ROICC Office  
Joe Colella – JV-II  
Scott Smith – JV-II

CONTRACT: Navy Contract No. N62467-03-D-0260

TO: Task Order No. 0005, Naval Training Center (NTC) Orlando

DATE: April 16, 2004

### Introduction

AGVIQ-CH2MHILL Joint Venture-II (JV-II) was contracted by the Department of the Navy, Naval Facilities Engineering Command, Southern Division (NAVFAC EFD SOUTH) to complete the removal of polynuclear aromatic hydrocarbon (PAH) contaminated soil at Study Area (SA) 55 at the Naval Training Center (NTC), Orlando, Florida. The soil removal was conducted in accordance with the *Abbreviated Work Plan for Soil Removal Activities, Study Area 55, Naval Training Center, Orlando, Florida* (JV-II, November 2003). This work was performed under Response Action Contract (RAC) No. N62467-03-D-0260, Task Order (TO) No. 0005.

### Site Background

SA 55, a former hazardous materials storage area, is located at Area C of NTC Orlando. Building 1104 is located adjacent to the site. Soils at the site were contaminated with PAHs to a depth of 2 to 3 feet below land surface (bls).

In July 2003, Tetra Tech NUS Inc. (TtNUS) completed soil assessment activities by establishing an excavation grid system around previous soil borings installed at the site. A total of approximately 100 surface soil boring samples were collected at various depths for

PAH constituent analysis using U.S. Environmental Protection Agency (EPA) Method 8310 to establish the limits of the area to be remediated.

Based on the laboratory analytical results, TtNUS defined three soil removal areas were designated at SA 55. The excavation areas are shown on Figure 1. Approximately 253 in-place cubic yards were planned for excavation and offsite disposal as part of the soil removal activities at SA 55. JV-II was able to procure the transportation and disposal approval for the soil based on the pre-excavation sampling and analysis performed by TtNUS.

### **Project Objectives**

The objective of the soil removal activities at SA 55 was to remove and dispose of PAH-contaminated surface soil at the site that exceed State of Florida residential Site Cleanup Target Levels (SCTLs).

## **Contaminated Soil Removal Activities**

The PAH-contaminated soil removal at SA 55 was performed during the period of February 16 through 25, 2004.

Three excavations (shown on Figure 1) were performed at SA 55. The horizontal excavation limits were based on soil sample results obtained and evaluated by TtNUS. Soil was excavated to the pre-defined horizontal limits of the excavation and to a depth of 2 feet bls. No additional soil excavation beyond the pre-established limits was conducted.

A description of the soil removal activities is presented in the following sections. A photograph log documenting various stages of the excavating and backfilling activities is provided in Attachment A.

### **Site Preparation**

In preparation for excavation, JV-II obtained utility clearance and excavation permits for the work.

Underground utility locates were conducted at each of the areas. Documentation of the utility survey (including water, electricity, natural gas, fuel pipelines, telephone, or other utility lines) and its results were completed prior to any subsurface activities was performed. All utilities identified adjacent to the work area were clearly marked and identified.

Survey stakes located throughout the site marked exact excavation limits. Post-excavation soil laboratory confirmation sampling was not required based on the pre-excavation work by TtNUS.

### **Soil Excavation and Disposal**

JV-II removed approximately 372 tons of PAH-contaminated soil as part of the soil removal activities at SA 55. Each of the areas was excavated using a track-mounted excavator. Manual digging to excavation limits was completed near Building 1104 in Area 1, and utility pole guy wires at the southwest end of Area 2.

The contaminated soil was temporarily stockpiled within the footprint of the excavation, then loaded onto DOT-approved trucks and transported to the Waste Management Okeechobee Landfill (Subtitle D) for proper disposal as a non-hazardous waste. A transportation and disposal log, copies of the waste profile information, and copies of the disposal manifests are provided in Attachment B. The certificate of disposal is provided in Attachment C.

## **Backfill and Site Restoration**

A representative sample of backfill material was collected from the offsite source and analyzed for the presence of the following constituents using USEPA SW-846 procedures:

- Target compound list (TCL) volatile organic compounds (VOCs) (Methods 5035/260B)
- TCL semi-volatile organic compounds (SVOCs) (Method 8270C)
- TCL pesticides (Method 8081A)
- Herbicides (Method 8151)
- Polychlorinated biphenyls (PCBs) (Method 8082)
- Target analyte list (TAL) metals (Methods 7471 and 6010B)
- pH

All analyte concentrations in the backfill sample were below residential SCTLs. A copy of the backfill analytical data is provided in Attachment D.

Each excavation was backfilled and compacted to original grade with the excavator. After completing the placement of backfill material, the disturbed area were restored with Bahia sod, and the sod was irrigated daily for two weeks until stable and growing.

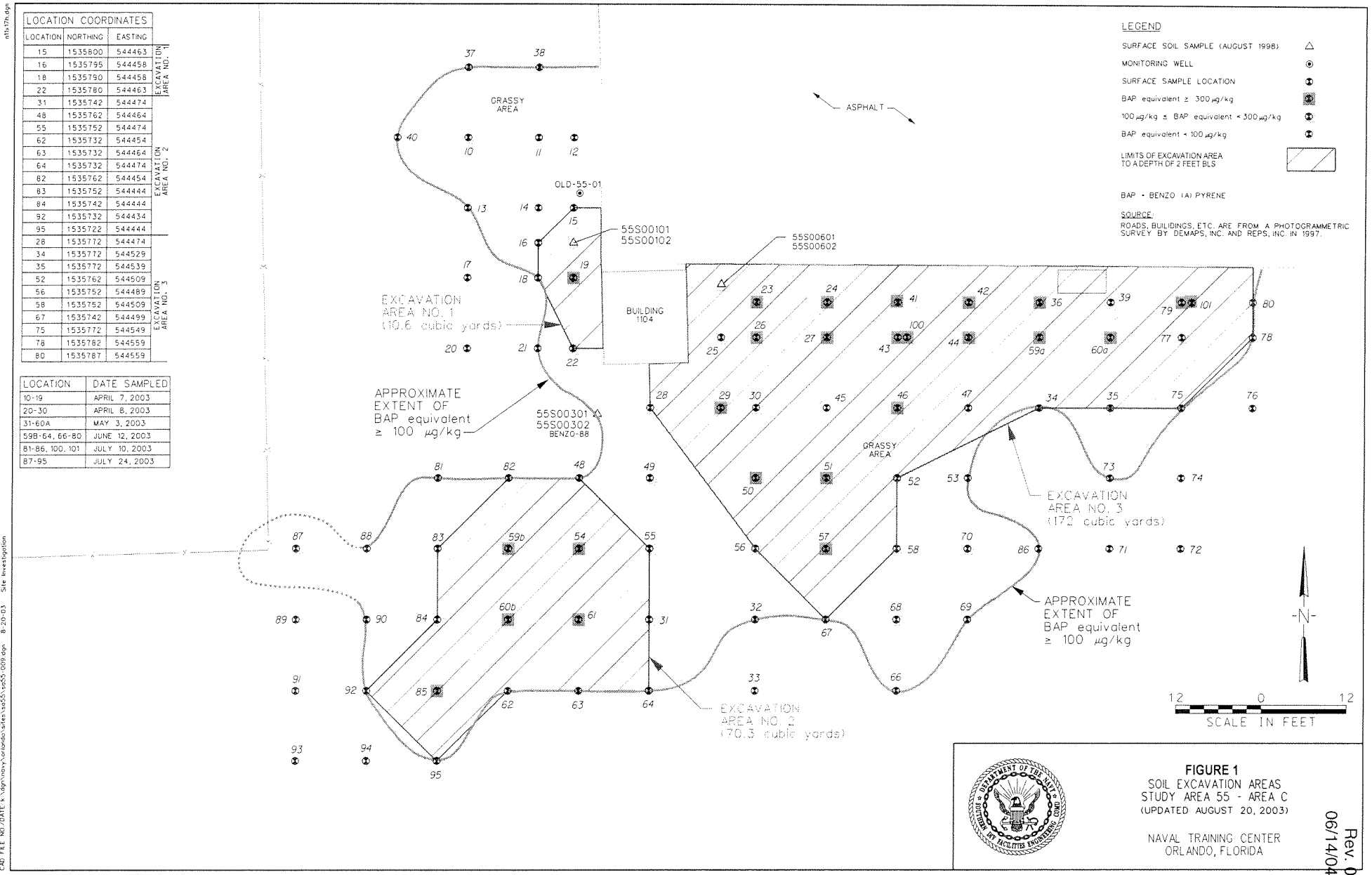
## **Site Inspection**

Representatives from JV-II and EFD SOUTH completed a site inspection on February 25, 2004. A punchlist was developed (additional sod placement and site cleanup), and the punchlist items were completed on February 28, 2004.

## **Conclusions**

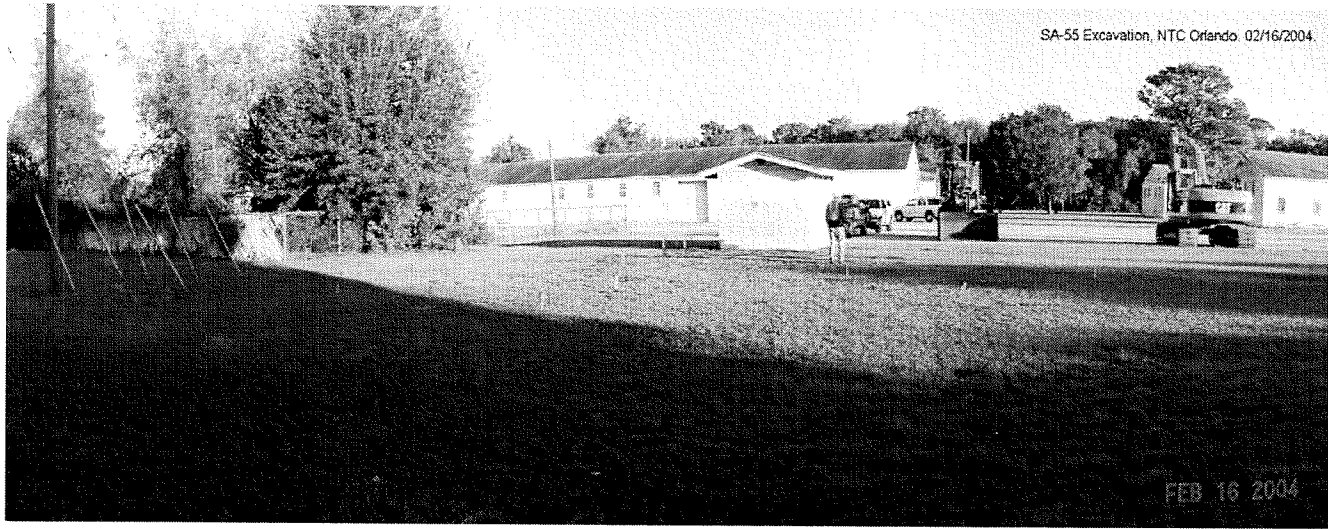
The objective of the soil removal activities at SA 55 was to remove and dispose of PAH-contaminated surface soil at the site exceeding the State of Florida residential SCTLs. JV-II removed and disposed of 372 tons of PAH-contaminated soil from three areas at the site. Each area was restored with clean backfill and Bahia sod. As a result of the soil removal activities, the site is suitable for residential land use.

## Figures

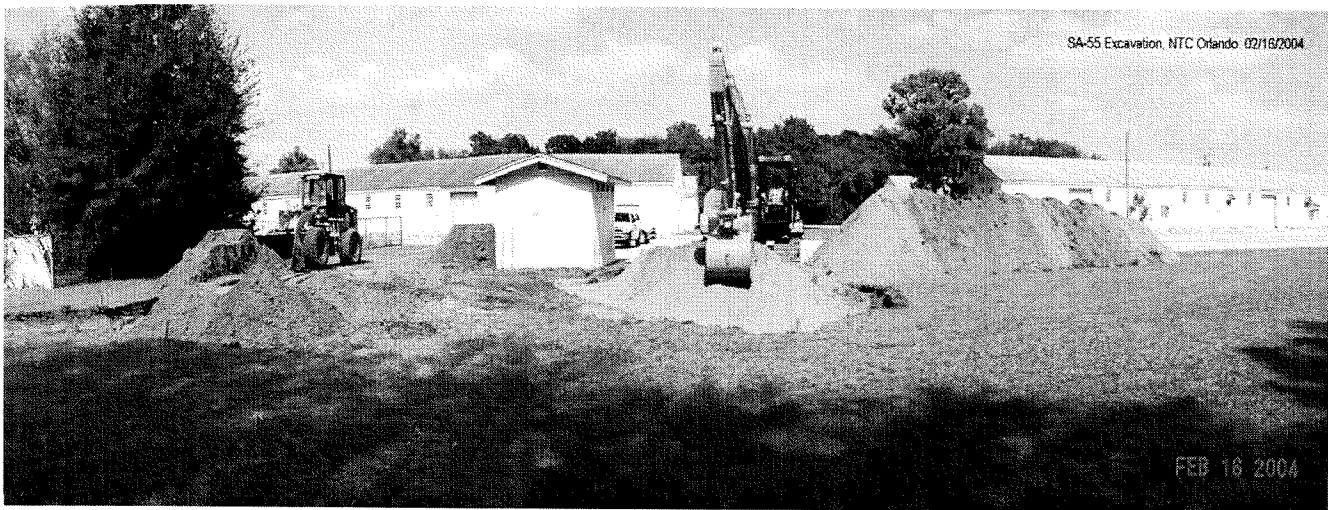


# **Attachment A**

## **Photographic Log**



*Pre-Excavation Site Conditions – Looking North at Building 1104*

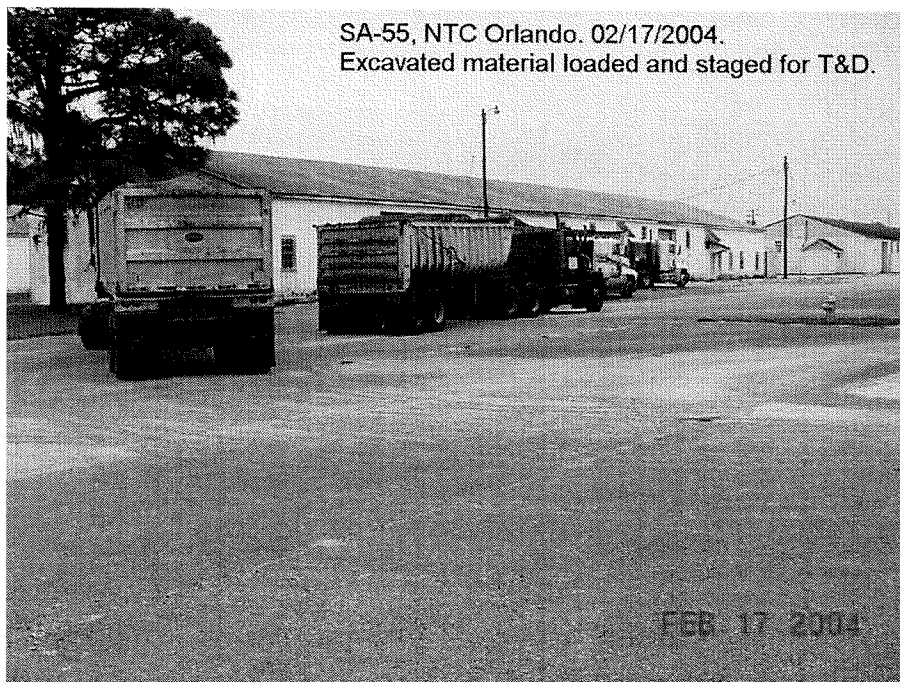


*Excavation in Progress at Areas 2 And 3 – Looking North at Building 1104*





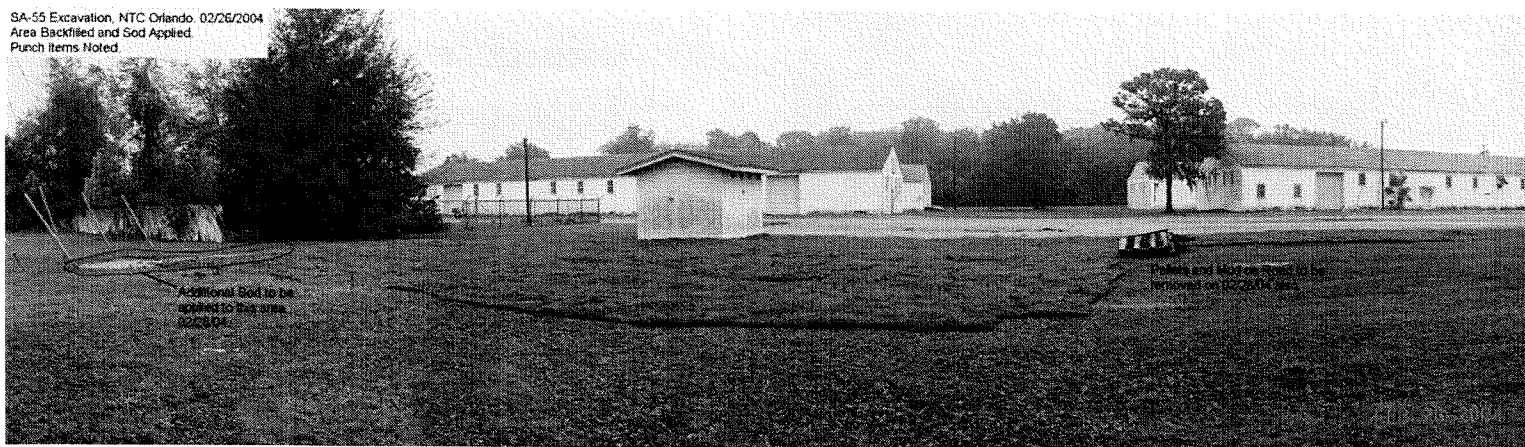
*Excavated Material Stockpile Awaiting T&D – Looking South*



*Excavated Material Loaded and Staged for Transportation and Disposal*



*Backfilling in Excavation Area 3 – Looking West*



*Restored Site (Punchlist Items Noted) – Looking North/Northwest*

## **Attachment B**

### **Waste Disposal Information**



# GENERATOR'S WASTE PROFILE SHEET

Rev. 0  
06/14/04

FECC PROJECT NO: 030909

Service Agreement on File? ☒ YES ☐ NO

Profile Number: WMI \_\_\_\_\_  
Renewal Date: \_\_\_\_\_

## A. Waste Generator Information

1. Generator Name: SOUTH DIVNAFACENCOM/NTC Orlando 2. SIC Code: N/A  
3. Facility Street Address: 1060 Warehouse Road 4. Phone: 407/895-6714  
5. Facility City: Orlando, FL 6. State/Province: FLORIDA  
7. Zip/Postal Code: 32801 8. Generator USEPA/Federal ID#: N/A  
9. County: Orange 10. State/Province ID#: N/A  
11. Customer Name: Florida Environmental Compliance Corporation 12. Customer Phone: (407) 296-9995  
13. Customer Contact: Grgeory AJ MacDougall 14. Customer Fax: (407) 296-9125

## B. Waste Stream Information

1. Name of Waste: Non-Hazardous Industrial Soils State Waste Code: NA  
3. Process Generating Waste: Run Off Accumulation from Industrial Storage Area.  
4. Estimated Annual Volume: 400 Tons ☒ Yards ☐ Other (specify) \_\_\_\_\_  
5. Personal Protective Equipment Requirements: \_\_\_\_\_  
6. Transporter/Transfer Station: Soil Tech Distributors, Inc.  
7. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (if not, skip 8, 9, & 10)..... ☐ YES ☒ NO  
8. Reportable Quantity (lbs.; kgs) N/A Hazard Class/ID #: NON-HAZARDOUS  
10. USDOT Shipping Name: Non-Hazardous Industrial Soils  
☒ Check if additional information is attached. Indicate the number of attached pages: 8  
11. Disposal Facility: Okeechobee Landfill

## C. Generator's Certification (Please check appropriate responses, sign and date below.)

1. Is the waste represented by this waste profile sheet a "Hazardous Waste," as defined by USEPA, Canadian, Mexican and/or state/province regulation, in the location where generated or ultimately managed? ..... ☐ YES ☒ NO
2. Does this waste represented by this waste profile sheet contain regulated radioactive material or regulated concentrations of Polychlorinated Biphenyls (PCBs)?..... ☐ YES ☒ NO
3. Does this waste profile sheet and all attachments contain true and accurate descriptions of the waste material?..... ☒ YES ☐ NO
4. Has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor?..... ☒ YES ☐ NO
5. Is the analytical data attached hereto derived from testing a representative sample in accordance with 40CFR 261.20 (c) or equivalent rules?..... ☒ YES ☐ NO
6. Will all changes that occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor?..... ☒ YES ☐ NO

Certification Signature: Barbara Nwokike Title: REMEDIAL PROJECT MANAGER  
Name (Type or Print): BARBARA NWOKIKE Company Name: SOUTH NAVFAC ENG COM Date: 11-13-03

## D. WMI Management's Decision

FOR WMI USE ONLY

1. Management Method: ☐ Landfill ☐ Solidify ☐ Bioremediation ☐ Other (Specify) \_\_\_\_\_  
2. Proposed Ultimate Management Facility: \_\_\_\_\_ 3. Hours of acceptance: \_\_\_\_\_ ☐ NA  
4. Supplemental Information: \_\_\_\_\_  
5. Precautions, Special Handling Procedures or Limitations on Approval: \_\_\_\_\_  
Special Waste Decision..... ☐ Approved ☐ Disapproved  
Salesperson's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Division Approval Signature (Optional): \_\_\_\_\_ Date: \_\_\_\_\_  
Special Waste Approvals Person Signature: \_\_\_\_\_ Date: \_\_\_\_\_

1

PCB ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 EPA Sample No. 0455A1S01  
 Lab Code: PEL Case No.                      SAS No:                      SDG No.: 2310233  
 Matrix: SOIL Lab Sample ID 231023301 Lab File ID 233-1.D  
 Sample wt/vol: 33.23 Units: G Date Received: 10/28/03  
 Concentrated Extract Volume: 10 Date Extracted: 10/31/03  
 Level:(low/med) LOW Date Analyzed: 11/03/03 Time: 1356  
 PercentSolids: 96 decanted :                      Dilution Factor: 1  
 Extraction: SONC Station ID SA-55 Area-1 Method: 8082  
 GPC Cleanup : ( Y/N ) N pH:                       
 Column(1): STX-CLP1 ID: 0.32 (mm) Column(2): STX-CLP2 ID: 0.32 (mm)  
 CONCENTRATION UNITS: UG/KG

CAS NO.	ANALYTE	RESULT	Q
12674-11-2	Aroclor-1016	16	U
11096-82-5	Aroclor-1260	16	U
11104-28-2	Aroclor-1221	310	U
11141-16-5	Aroclor-1232	310	U
53469-21-9	Aroclor-1242	310	U
12672-29-6	Aroclor-1248	310	U
11097-69-1	Aroclor-1254	310	U

Higher value of the two columns reported as result unless %D between the columns is >40%, then the lower of the two results is reported

101103 1551

Form I

1

PCB ORGANIC ANALYSIS DATA SHEET

EPA Sample No. 0455A2S01

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5

Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233

Matrix: SOIL Lab Sample ID 231023302 Lab File ID 233-2.D

Sample wt/vol: 33.1 Units: G Date Received: 10/28/03

Concentrated Extract Volume: 10 Date Extracted: 10/31/03

Level:(low/med) LOW Date Analyzed: 11/03/03 Time: 1422

PercentSolids: 96.4 decanted :            Dilution Factor: 1

Extraction: SONC Station ID SA-55 Area-2 Method: 8082

GPC Cleanup : ( Y/N ) N pH:           

Column(1): STX-CLP1 ID: 0.32 (mm) Column(2): STX-CLP2 ID: 0.32 (mm)

CONCENTRATION UNITS: UG/KG

CAS NO.	ANALYTE	RESULT	Q
12674-11-2	Aroclor-1016	16	U
11096-82-5	Aroclor-1260	16	U
11104-28-2	Aroclor-1221	310	U
11141-16-5	Aroclor-1232	310	U
53469-21-9	Aroclor-1242	310	U
12672-29-6	Aroclor-1248	310	U
11097-69-1	Aroclor-1254	310	U

Higher value of the two columns reported as result unless %D between the columns is >40%, then the lower of the two results is reported

101103 1/551

Form I

1

PCB ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Orlando SA-5 EPA Sample No. 0455A3S01  
 Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
 Matrix: SOIL Lab Sample ID 231023303 Lab File ID 233-3.D  
 Sample wt/vol: 33.09 Units: G Date Received: 10/28/03  
 Concentrated Extract Volume: 10 Date Extracted: 10/31/03  
 Level:(low/med) LOW Date Analyzed: 11/03/03 Time: 1448  
 PercentSolids: 97 decanted :            Dilution Factor: 1  
 Extraction: SONC Station ID SA-55 Area-3 Method: 8082  
 GPC Cleanup : ( Y/N ) N pH:             
 Column(1): STX-CLP1 ID: 0.32 (mm) Column(2): STX-CLP2 ID: 0.32 (mm)  
 CONCENTRATION UNITS: UG/KG

CAS NO.	ANALYTE	RESULT	Q
12674-11-2	Aroclor-1016	15	U
11096-82-5	Aroclor-1260	15	U
11104-28-2	Aroclor-1221	310	U
11141-16-5	Aroclor-1232	310	U
53469-21-9	Aroclor-1242	310	U
12672-29-6	Aroclor-1248	310	U
11097-69-1	Aroclor-1254	310	U

Higher value of the two columns reported as result unless %D between the columns is >40%, then the lower of the two results is reported

101103 1551

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 EPA Sample No. 0455A1S01  
 Lab Code : PEL Case No.            SAS No:            SDG No.: 2310233  
 Matrix: WATER Lab Sample ID 231023301 Lab File ID 23301.D  
 Sample wt/vol: 0.5 Units: ML Date Received: 10/28/03  
 Concentrated Extract Volume: 5 Date Extracted:             
 Level:(low/med) LOW Date Analyzed: 11/03/03 Time: 1940  
 PercentSolids: 0 decanted :            Dilution Factor: 1  
 Extraction: PURGETRAP Station ID SA-55 Area-1 Method: 8260 TCLP  
 GPC Cleanup : ( Y/N )            pH:             
 Column(1): DB-624 ID: 0.18 (mm)  
 CONCENTRATION UNITS: MG/L

**TCLP Analysis**

CAS NO.	ANALYTE	RESULT	Q
75-01-4	Vinyl chloride	0.01	U
75-35-4	1,1-Dichloroethene	0.01	U
78-93-3	2-Butanone	0.02	U
67-66-3	Chloroform	0.01	U
56-23-5	Carbon tetrachloride	0.01	U
71-43-2	Benzene	0.01	U
107-06-2	1,2-Dichloroethane	0.01	U
79-01-6	Trichloroethene	0.01	U
127-18-4	Tetrachloroethene	0.01	U
108-90-7	Chlorobenzene	0.01	U



1

VOLATILE ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 EPA Sample No. 0455A2S01  
 Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
 Matrix: WATER Lab Sample ID 231023302 Lab File ID 23302.D  
 Sample wt/vol: 0.5 Units: ML Date Received: 10/28/03  
 Concentrated Extract Volume: 5 Date Extracted:             
 Level:(low/med) LOW Date Analyzed: 11/03/03 Time: 2003  
 PercentSolids: 0 decanted :            Dilution Factor: 1  
 Extraction: PURGETRAP Station ID SA-55 Area-2 Method: 8260 TCLP  
 GPC Cleanup : ( Y/N )            pH:             
 Column(1): DB-624 ID: 0.18 (mm)  
 CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	ANALYTE	RESULT	Q
75-01-4	Vinyl chloride	0.01	U
75-35-4	1,1-Dichloroethene	0.01	U
78-93-3	2-Butanone	0.02	U
67-66-3	Chloroform	0.01	U
56-23-5	Carbon tetrachloride	0.01	U
71-43-2	Benzene	0.01	U
107-06-2	1,2-Dichloroethane	0.01	U
79-01-6	Trichloroethene	0.01	U
127-18-4	Tetrachloroethene	0.01	U
108-90-7	Chlorobenzene	0.01	U

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No. 0455A3S01

Lab Name: PEL Laboratories, Inc. Contract: NTC Orlando SA-5

Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233

Matrix: WATER Lab Sample ID 231023303 Lab File ID 23303.D

Sample wt/vol: 0.5 Units: ML Date Received: 10/28/03

Concentrated Extract Volume: 5 Date Extracted:           

Level:(low/med) LOW Date Analyzed: 11/03/03 Time: 2026

PercentSolids: 0 decanted :            Dilution Factor: 1

Extraction: PURGETRAP Station ID SA-55 Area-3 Method: 8260 TCLP

GPC Cleanup : ( Y/N )            pH:           

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	ANALYTE	RESULT	Q
75-01-4	Vinyl chloride	0.01	U
75-35-4	1,1-Dichloroethene	0.01	U
78-93-3	2-Butanone	0.02	U
67-66-3	Chloroform	0.01	U
56-23-5	Carbon tetrachloride	0.01	U
71-43-2	Benzene	0.01	U
107-06-2	1,2-Dichloroethane	0.01	U
79-01-6	Trichloroethene	0.01	U
127-18-4	Tetrachloroethene	0.01	U
108-90-7	Chlorobenzene	0.01	U

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Orlando SA-5 EPA Sample No. 0455A1S01  
 Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
 Matrix: WATER Lab Sample ID 231023301 Lab File ID 233-01.D  
 Sample wt/vol: 1000 Units: ML Date Received: 10/28/03  
 Concentrated Extract Volume: 1 Date Extracted: 11/04/03  
 Level:(low/med) LOW Date Analyzed: 11/05/03 Time: 1756  
 PercentSolids: 0 decanted :            Dilution Factor: 1  
 Extraction: SEPF Station ID SA-55 Area-1 Method: 8270 TCLP  
 GPC Cleanup : ( Y/N ) N pH:             
 Column(1): HPMS-5 ID: 0.25 (mm)  
 CONCENTRATION UNITS: MG/L

**TCLP Analysis**

CAS NO.	ANALYTE	RESULT	Q
110-86-1	Pyridine	0.004	U
106-46-7	1,4-Dichlorobenzene	0.004	U
95-48-7	2-Methylphenol (o-Cresol)	0.004	U
67-72-1	Hexachloroethane	0.004	U
106-44-5	4-Methylphenol	0.004	U
98-95-3	Nitrobenzene	0.004	U
87-68-3	Hexachlorobutadiene	0.004	U
88-06-2	2,4,6-Trichlorophenol	0.004	U
95-95-4	2,4,5-Trichlorophenol	0.004	U
121-14-2	2,4-Dinitrotoluene	0.004	U
118-74-1	Hexachlorobenzene	0.004	U
87-86-5	Pentachlorophenol	0.01	U

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 EPA Sample No. 0455A2S01  
 Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
 Matrix: WATER Lab Sample ID 231023302 Lab File ID 233-02.D  
 Sample wt/vol: 1000 Units: ML Date Received: 10/28/03  
 Concentrated Extract Volume: 1 Date Extracted: 11/04/03  
 Level:(low/med) LOW Date Analyzed: 11/05/03 Time: 1827  
 PercentSolids: 0 decanted :            Dilution Factor: 1  
 Extraction: SEPF Station ID SA-55 Area-2 Method: 8270 TCLP  
 GPC Cleanup : ( Y/N ) N pH:             
 Column(1): HPMS-5 ID: 0.25 (mm)  
 CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	ANALYTE	RESULT	Q
110-86-1	Pyridine	0.004	U
106-46-7	1,4-Dichlorobenzene	0.004	U
95-48-7	2-Methylphenol (o-Cresol)	0.004	U
67-72-1	Hexachloroethane	0.004	U
106-44-5	4-Methylphenol	0.004	U
98-95-3	Nitrobenzene	0.004	U
87-68-3	Hexachlorobutadiene	0.004	U
88-06-2	2,4,6-Trichlorophenol	0.004	U
95-95-4	2,4,5-Trichlorophenol	0.004	U
121-14-2	2,4-Dinitrotoluene	0.004	U
118-74-1	Hexachlorobenzene	0.004	U
87-86-5	Pentachlorophenol	0.01	U

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No. 0455A3S01

Lab Name: PEL Laboratories, Inc. Contract: NTC Orlando SA-5

Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233

Matrix: WATER Lab Sample ID 231023303 Lab File ID 233-03.D

Sample wt/vol: 1000 Units: ML Date Received: 10/28/03

Concentrated Extract Volume: 1 Date Extracted: 11/04/03

Level:(low/med) LOW Date Analyzed: 11/05/03 Time: 1859

PercentSolids: 0 decanted :            Dilution Factor: 1

Extraction: SEPF Station ID SA-55 Area-3 Method: 8270 TCLP

GPC Cleanup : ( Y/N ) N pH:           

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	ANALYTE	RESULT	Q
110-86-1	Pyridine	0.004	U
106-46-7	1,4-Dichlorobenzene	0.004	U
95-48-7	2-Methylphenol (o-Cresol)	0.004	U
67-72-1	Hexachloroethane	0.004	U
106-44-5	4-Methylphenol	0.004	U
98-95-3	Nitrobenzene	0.004	U
87-68-3	Hexachlorobutadiene	0.004	U
88-06-2	2,4,6-Trichlorophenol	0.004	U
95-95-4	2,4,5-Trichlorophenol	0.004	U
121-14-2	2,4-Dinitrotoluene	0.004	U
118-74-1	Hexachlorobenzene	0.004	U
87-86-5	Pentachlorophenol	0.01	U

1

PESTICIDE ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 EPA Sample No. 0455A1S01  
 Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
 Matrix: WATER Lab Sample ID 231023301 Lab File ID 233-01.D  
 Sample wt/vol: 920 Units: ML Date Received: 10/28/03  
 Concentrated Extract Volume: 10 Date Extracted: 11/06/03  
 Level:(low/med) LOW Date Analyzed: 11/08/03 Time: 0315  
 PercentSolids: 0 decanted :            Dilution Factor: 1  
 Extraction: SEPF Station ID SA-55 Area-1 Method: 8081 TCLP  
 GPC Cleanup : ( Y/N ) N pH:             
 Column(1): STX-CLP1 ID: 0.32 (mm) Column(2): STX-CLP2 ID: 0.32 (mm)  
 CONCENTRATION UNITS: MG/L **TCLP Analysis**

CAS NO.	ANALYTE	RESULT	Q
58-89-9	gamma-BHC (Lindane)	0.000054	U
76-44-8	Heptachlor	0.000054	U
1024-57-3	Heptachlor epoxide	0.000054	U
72-20-8	Endrin	0.000054	U
72-43-5	Methoxychlor	0.000054	U
57-74-9	Chlordane	0.00054	U
8001-35-2	Toxaphene	0.0011	U

Higher value of the two columns reported as result unless %D between the columns is >40%, then the lower of the two results is reported

101103 1553

Form I

1

PESTICIDE ORGANIC ANALYSIS DATA SHEET

EPA Sample No. 0455A2S01

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5

Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233

Matrix: WATER Lab Sample ID 231023302 Lab File ID 233-02.D

Sample wt/vol: 930 Units: ML Date Received: 10/28/03

Concentrated Extract Volume: 10 Date Extracted: 11/06/03

Level:(low/med) LOW Date Analyzed: 11/08/03 Time: 0341

PercentSolids: 0 decanted :            Dilution Factor: 1

Extraction: SEPF Station ID SA-55 Area-2 Method: 8081 TCLP

GPC Cleanup : ( Y/N ) N pH:           

Column(1): STX-CLP1 ID: 0.32 (mm) Column(2): STX-CLP2 ID: 0.32 (mm)

CONCENTRATION UNITS: MG/L

**TCLP Analysis**

CAS NO.	ANALYTE	RESULT	Q
58-89-9	gamma-BHC (Lindane)	0.000054	U
76-44-8	Heptachlor	0.000054	U
1024-57-3	Heptachlor epoxide	0.000054	U
72-20-8	Endrin	0.000054	U
72-43-5	Methoxychlor	0.000054	U
57-74-9	Chlordane	0.00054	U
8001-35-2	Toxaphene	0.0011	U

Higher value of the two columns reported as result unless %D between the columns is >40%, then the lower of the two results is reported

101103 1553

Form I

1

PESTICIDE ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Orlando SA-5 EPA Sample No. 0455A3S01  
 Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
 Matrix: WATER Lab Sample ID 231023303 Lab File ID 233-03.D  
 Sample wt/vol: 940 Units: ML Date Received: 10/28/03  
 Concentrated Extract Volume: 10 Date Extracted: 11/06/03  
 Level:(low/med) LOW Date Analyzed: 11/08/03 Time: 0407  
 PercentSolids: 0 decanted :            Dilution Factor: 1  
 Extraction: SEPF Station ID SA-55 Area-3 Method: 8081 TCLP  
 GPC Cleanup : ( Y/N ) N pH:             
 Column(1): STX-CLP1 ID: 0.32 (mm) Column(2): STX-CLP2 ID: 0.32 (mm)  
 CONCENTRATION UNITS: MG/L

**TCLP Analysis**

CAS NO.	ANALYTE	RESULT	Q
58-89-9	gamma-BHC (Lindane)	0.000053	U
76-44-8	Heptachlor	0.000053	U
1024-57-3	Heptachlor epoxide	0.000053	U
72-20-8	Endrin	0.000053	U
72-43-5	Methoxychlor	0.000053	U
57-74-9	Chlordane	0.00053	U
8001-35-2	Toxaphene	0.0011	U

Higher value of the two columns reported as result unless %D between the columns is >40%, then the lower of the two results is reported

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Form I



1

HERBICIDE ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 EPA Sample No. 0455A1S01  
 Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
 Matrix: WATER Lab Sample ID 231023301 Lab File ID 233-1.D  
 Sample wt/vol: 810 Units: ML Date Received: 10/28/03  
 Concentrated Extract Volume: 10 Date Extracted: 11/05/03  
 Level:(low/med) LOW Date Analyzed: 11/07/03 Time: 0139  
 PercentSolids: 0 decanted :            Dilution Factor: 10  
 Extraction: SEPF Station ID SA-55 Area-1 Method: 8151 TCLP  
 GPC Cleanup : ( Y/N ) N pH:             
 Column(1): STX-CLP1 ID: 0.32 (mm)  
 CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	ANALYTE	RESULT	Q
94-75-7	2,4'-D	0.0031	U
93-72-1	2,4,5-TP (Silvex)	0.0031	U

1

HERBICIDE ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 EPA Sample No. 0455A2S01  
Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
Matrix: WATER Lab Sample ID 231023302 Lab File ID 233-2.D  
Sample wt/vol: 795 Units: ML Date Received: 10/28/03  
Concentrated Extract Volume: 10 Date Extracted: 11/05/03  
Level:(low/med) LOW Date Analyzed: 11/07/03 Time: 0218  
PercentSolids: 0 decanted :            Dilution Factor: 10  
Extraction: SEPF Station ID SA-55 Area-2 Method: 8151 TCLP  
GPC Cleanup : ( Y/N ) N pH:             
Column(1): STX-CLP1 ID: 0.32 (mm)  
CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	ANALYTE	RESULT	Q
94-75-7	2,4'-D	0.0031	U
93-72-1	2,4,5-TP (Silvex)	0.0031	U

1

HERBICIDE ORGANIC ANALYSIS DATA SHEET

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 EPA Sample No. 0455A3S01  
Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
Matrix: WATER Lab Sample ID 231023303 Lab File ID 233-3.D  
Sample wt/vol: 770 Units: ML Date Received: 10/28/03  
Concentrated Extract Volume: 10 Date Extracted: 11/05/03  
Level:(low/med) LOW Date Analyzed: 11/07/03 Time: 0256  
PercentSolids: 0 decanted :            Dilution Factor: 10  
Extraction: SEPF Station ID SA-55 Area-3 Method: 8151 TCLP  
GPC Cleanup : ( Y/N ) N pH:             
Column(1): STX-CLP1 ID: 0.32 (mm)  
CONCENTRATION UNITS: MG/L

TCLP Analysis

CAS NO.	ANALYTE	RESULT	Q
94-75-7	2,4'-D	0.0032	U
93-72-1	2,4,5-TP (Silvex)	0.0032	U

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 0455A1S01  
Lab Code: PEL Case No.                      SAS No:                      SDG No.: 2310233  
Matrix: SOIL Lab Sample ID 231023301  
Level:(low/med) LOW Date Received: 10/28/03  
PercentSolids: 0 Station ID: SA-55 Area-1

CONCENTRATION UNITS: MG/L

**TCLP Analysis**

CAS NO.	ANALYTE	Concentration	C	Q	M
7440-38-2	Arsenic	0.05	U		P
7440-39-3	Barium	0.0981			P
7440-43-9	Cadmium	0.01	U		P
7440-47-3	Chromium	0.011	J		P
7439-92-1	Lead	0.05	U		P
7439-97-6	Mercury	0.002	U		CV
7782-49-2	Selenium	0.05	U		P
7440-22-4	Silver	0.02	U		P

Color Before:                      Clarity Before:                      Texture :                     

Color After :                      Clarity After:                      Artifacts:                     

Comments:

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: NTC Orlando SA-5 0455A2S01  
Lab Code : PEL Case No.            SAS No:            SDG No.: 2310233  
Matrix: SOIL Lab Sample ID 231023302  
Level:(low/med) LOW Date Received: 10/28/03  
PercentSolids: 0 Station ID: SA-55 Area-2

CONCENTRATION UNITS: MG/L

**TCLP Analysis**

CAS NO.	ANALYTE	Concentration	C	Q	M
7440-38-2	Arsenic	0.05	U		P
7440-39-3	Barium	0.0268			P
7440-43-9	Cadmium	0.01	U		P
7440-47-3	Chromium	0.0277			P
7439-92-1	Lead	0.05	U		P
7439-97-6	Mercury	0.002	U		CV
7782-49-2	Selenium	0.05	U		P
7440-22-4	Silver	0.02	U		P

Color Before:            Clarity Before:            Texture :           

Color After :            Clarity After:            Artifacts:           

Comments:

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 0455A3S01  
 Lab Code : PEL Case No.                      SAS No:                      SDG No.: 2310233  
 Matrix: SOIL Lab Sample ID 231023303  
 Level:(low/med) LOW Date Received: 10/28/03  
 PercentSolids: 0 Station ID: SA-55 Area-3

CONCENTRATION UNITS: *MG/L*

**TCLP Analysis**

CAS NO.	ANALYTE	Concentration	C	Q	M
7440-38-2	Arsenic	0.05	U		P
7440-39-3	Barium	0.0468			P
7440-43-9	Cadmium	0.01	U		P
7440-47-3	Chromium	0.00747	J		P
7439-92-1	Lead	0.05	U		P
7439-97-6	Mercury	0.002	U		CV
7782-49-2	Selenium	0.05	U		P
7440-22-4	Silver	0.02	U		P

Color Before:                      Clarity Before:                      Texture :                     

Color After :                      Clarity After:                      Artifacts:                     

Comments:

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: NTC Orlando SA-5 0455A2S01  
Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
Matrix: SOIL Lab Sample ID 231023302  
Level:(low/med) LOW Date Received: 10/28/03  
PercentSolids: 0 Station ID: SA-55 Area-2

CONCENTRATION UNITS: *Fahrenheit*

CAS NO.	ANALYTE	Concentration	C	Q	M
1-01-3	Flash Point	160	>		N/A

Color Before:            Clarity Before:            Texture :           

Color After :            Clarity After:            Artifacts:           

Comments:

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 0455A3S01  
Lab Code: PEL Case No.                      SAS No:                      SDG No.: 2310233  
Matrix: SOIL Lab Sample ID 231023303  
Level:(low/med) LOW Date Received: 10/28/03  
PercentSolids: 0 Station ID: SA-55 Area-3

CONCENTRATION UNITS: *Fahrenheit*

CAS NO.	ANALYTE	Concentration	C	Q	M
1-01-3	Flash Point	160	>		N/A

Color Before:                      Clarity Before:                      Texture :                     

Color After :                      Clarity After:                      Artifacts:                     

Comments:

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101103 1550

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: NTC Orlando SA-5 0455A1S01  
Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
Matrix: SOIL Lab Sample ID 231023301  
Level:(low/med) LOW Date Received: 10/28/03  
PercentSolids: 0 Station ID: SA-55 Area-1

CONCENTRATION UNITS: *pH*

CAS NO.	ANALYTE	Concentration	C	Q	M
1-00-6	pH	7.53			N/A

Color Before:            Clarity Before:            Texture :           

Color After :            Clarity After:            Artifacts:           

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

101103 1351



U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Lab Name: PEL Laboratories, Inc. Contract: NTC Olando SA-5 0455A3S01  
Lab Code: PEL Case No.            SAS No:            SDG No.: 2310233  
Matrix: SOIL Lab Sample ID 231023303  
Level:(low/med) LOW Date Received: 10/28/03  
PercentSolids: 0 Station ID: SA-55 Area-3

CONCENTRATION UNITS: *pH*

CAS NO.	ANALYTE	Concentration	C	Q	M
1-00-6	pH	8.09			N/A

Color Before:            Clarity Before:            Texture :           

Color After :            Clarity After:            Artifacts:           

Comments:

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101103 1551

TRANSPORTATION AND DISPOSAL LOG

Date Printed: 04/16/2004

471003006

IV-H Task Order No	AGV/Q- CH2MHILL Project No	Project Name	Site Description	Container Type	Container Desig	Waste Profile Sample No	Contractor	Transporter	Date Transported	Transporter EPA ID	Driver & Load ID	Disposal Facility	Disp Fac EPA ID	Media	Waste Type (Haz, Nonhaz, TSCA)	Waste Code/ Haz Waste No	Disposal Date	Manifest Number	Quantity	Unit	CD Rec'd?	Certif of Disp/ Destruc Date	Disp Tretment/ Method
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	17-Feb-04	N/A	5270 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	17-Feb-04	01260	30.2	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	17-Feb-04	N/A	5233 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	17-Feb-04	01261	27.89	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	17-Feb-04	N/A	5209 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	17-Feb-04	01262	31.03	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	17-Feb-04	N/A	5235 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	17-Feb-04	01263	27.48	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	17-Feb-04	N/A	5247 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	17-Feb-04	01264	21.9	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	17-Feb-04	N/A	5553 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	17-Feb-04	01265	27.39	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	17-Feb-04	N/A	5253 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	17-Feb-04	01266	24.89	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	17-Feb-04	N/A	5225 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	17-Feb-04	01267	28.05	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	18-Feb-04	N/A	5253 #2	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	18-Feb-04	01268	25.97	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	18-Feb-04	N/A	5255 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	18-Feb-04	01269	25.3	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	18-Feb-04	N/A	5254 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	18-Feb-04	01270	21.27	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	18-Feb-04	N/A	5259 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	18-Feb-04	01271	26.48	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	18-Feb-04	N/A	5230 #1	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	18-Feb-04	01272	23.09	Ton	Y	29-Mar-04	LANDFILL
0005	283383	NTC Orlando	SA-55	DT	Tractor Trailer	N/A	FECC	Soil Tech Distributor, Inc	18-Feb-04	N/A	5553 #2	Okeechobee Landfill	N/A	Soil	NonHaz	N/A	18-Feb-04	01273	31.41	Ton	Y	29-Mar-04	LANDFILL
Phone Number 407-895-9103												14 Loads	Phone Number 863-357-0111										172.35

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CTO 0281

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06/14/04

2/24/2004

## Online Report

Page 1 of 1

## 001 Okeechobee Landfill Inc

2/1/2004 Through 2/24/2004

Ticket / Load	User	Hauler	Truck	Customer	Source	Product	Profile	Date	TimeIn	Total TimeOut	Gross	Tare	Net
001 Okeechobee Landfill Inc													
455304	ADAM	3125	209	3125	N	SOL	OCB0311011	02/17/2004	12:59 PM	1:37 PM	45.69	14.66	31.03
455313	ADAM	3125	235	3125	N	SOL	OCB0311011	02/17/2004	1:25 PM	1:47 PM	42.67	15.19	27.48
455318	ADAM	3125	233	3125	N	SOL	OCB0311011	02/17/2004	1:26 PM	1:52 PM	41.37	13.48	27.89
455326	ADAM	3125	247	3125	N	SOL	OCB0311011	02/17/2004	1:23 PM	2:04 PM	36.90	15.00	21.90
455437	ADAM	3125	253	3125	N	SOL	OCB0311011	02/18/2004	3:55 AM	3:55 AM	40.85	15.96	24.89
455471	ADAM	3125	553	3125	N	SOL	OCB0311011	02/18/2004	5:25 AM	5:40 AM	42.19	14.80	27.39
455520	ADAM	3125	270	3125	N	SOL	OCB0311011	02/18/2004	6:44 AM	7:09 AM	46.34	16.14	30.20
455573	ADAM	3125	225	3125	N	SOL	OCB0311011	02/18/2004	7:47 AM	8:17 AM	43.75	15.70	28.05
455639	ADAM	3125	253	3125	N	SOL	OCB0311011	02/18/2004	9:35 AM	9:35 AM	41.93	15.96	25.97
455722	ADAM	3125	553	3125	N	SOL	OCB0311011	02/18/2004	11:23 AM	11:23 AM	46.21	14.80	31.41
455723	ADAM	3125	230	3125	N	SOL	OCB0311011	02/18/2004	10:10 AM	11:24 AM	38.24	15.15	23.09
455734	ADAM	3125	259	3125	N	SOL	OCB0311011	02/18/2004	10:12 AM	11:33 AM	41.15	14.67	26.48
455839	ADAM	3125	255	3125	N	SOL	OCB0311011	02/18/2004	10:09 AM	1:51 PM	40.96	15.66	25.30
455845	ADAM	3125	254	3125	N	SOL	OCB0311011	02/18/2004	10:11 AM	1:59 PM	36.38	15.11	21.27
001 Total Tickets 14 Total Loads 14											Total Tons		372.35

In Tons : 372.35

Out Tons : 0.00

Total In&amp;Out Tons : 372.35

14 LOADS

TOTAL TONS  
 N. A. INDUSTRIAL SOIL  
 NTC ORLANDO  
 STUDY AREA 55  
 FECC Project No. 03/010  
 CH2M Hill Project No. 283383  
 Subcontract No. 800082  
 2/17/04 to 2/18/04

 Rev. 0  
 06/14/04

471003006

D-39

CTO 0281

DRIVER, PRINT NAME Jeff L. Lee

DRIVER, PLEASE SIGN HERE

Rev. 0  
06/14/04

I certify that the waste I delivered to this facility on this date does not contain any regulated hazardous waste as defined by the United States Environmental Protection Agency (EPA), Broward County Department of Natural Resource Protection (BNRP) or by the Florida Department of Environmental Protection (FDEP); any regulated radioactive materials or regulated concentrations of polychlorinated biphenyls (PCBs); waste from an industrial process or pollution control process, residue/debris from the cleanup of chemical substances, medical waste, batteries, wastes generated from the treatment of hazardous waste, asbestos (unless prior written approval has been obtained); I agree to remove any non-allowable wastes from this facility or pay all costs for proper removal and disposal of such wastes, upon request by this facility.

Okeechobee Landfill Inc.  
10800 NE 128th Avenue

Okeechobee, FL 34972  
863-357-0111

TICKET NBR

155,304

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMPLIANCE	209	ADAM	12:59:27	01:37:13	02/17/2004

3125 FLORIDA ENVIRONMENTAL  
FLORIDA ENVIRONMENTAL COMPLIANCE

Inbound Scale #: 2  
GROSS Lbs: 91,380.00  
Tare Lbs: 29,320.00  
Net Lbs: 62,060.00  
All Adjustments: 0.00  
Adjusted Lbs: 62,060.00  
Adjusted Tons: 31.03

SOURCES	OTHER INFORMATION
NO SOURCE SPECIAL WASTE Destination: OKEECHOBEE LANDFILL OCB0311011 OCB0311011	Check #
OUT	OUT OF COUNTY MATERIAL

MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT
SOL \ CONTAMINATED SOIL	31.03	TONS		
TOTAL FEES				
TOTAL FUEL SURCHARGE				
TOTAL AMOUNT				

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. N.A.	Manifest Document No. 012802	2. Page 1 of 1	5209
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENGCOM 2155 Eagle Drive North Charleston, SC 29419		Site: SOUTHDIVNAVFACENGCOM/NTC Orlando 1060 Warehouse Road Orlando, FL 32801			
4. Generator's Phone (843) /820-5226		407/895-6714			
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N.A.		A. Transporter's Phone 813/627-0889	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter's Phone	
9. Designated Facility Name and Site Address <del>Okeechobee</del> Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N.A.		C. Facility's Phone (863) 357-0111	
11. Waste Shipping Name and Description			12. Containers No.	Type	13. Total Quantity
a. Non Regulated Material (Industrial soils) RCRA & D.O.T. Non Hazardous (None)			001	DT	0.0.0.2.2
b.					
c.					
d.					
D. Additional Descriptions for Materials Listed Above			E. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information  Emergency Response\Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 02/17/04	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name JORGE CACERES		Signature Jorge Caceres		Month Day Year 02/17/04	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature		Month Day Year 12/17/04	

ORIGINAL - RETURN TO GENERATOR



Rev. 0  
06/14/04

DRIVER: PRINT NAME

DRIVER: PLEASE SIGN HERE

"I certify that the waste I delivered to this facility on this date does not contain any regulated hazardous waste as defined by the United States Environmental Protection Agency (EPA), Broward County Department of Natural Resource Protection (DNRP) or by the Florida Department of Environmental Protection (DEP); any regulated radioactive materials or regulated concentrations of polychlorinated biphenyls (PCB's); waste from an industrial process or pollution control process; residue/debris from the cleanup of chemical substances; medical waste; batteries; wastes generated from the treatment of a hazardous waste; asbestos (unless prior written approval has been obtained). I agree to remove any non-allowable wastes I bring in to this facility or pay all costs for proper removal and disposal of such wastes, upon request by this facility."

Okeechobee Landfill  
10800 NE 128th Avenue

TICKET NBR

455,313

Okeechobee, FL 34972  
863-357-0111

ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMP	235	ADAM	01:25:04	P01:47:23	P2/17/2004

3125 FLORIDA ENVIRONMENTAL  
FLORIDA ENVIRONMENTAL COMPLIANCE

Inbound Scale #: 2  
GROSS Lbs: 85,340.00  
Tare Lbs: 30,380.00  
Net Lbs: 54,960.00  
All Adjustments: 0.00  
Adjusted Lbs: 54,960.00  
Adjusted Tons: 27.48

SOURCES

OTHER INFORMATION

NO SOURCE SPECIAL WASTE  
Destination: OKEECHOBEE LANDFILL  
OCB0311011  
OCB0311011

Check #

OUT OUT OF COUNTY MATERIAL

MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT
SOL \ CONTAMINATED SOIL	27.48	TONS		
TOTAL FEES				
TOTAL FUEL SURCHARGE				
TOTAL AMOUNT				

85346 Rev. 0

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N. A.	Manifest Document No. 3	2. Page 1 of 1	S235	
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENGCOM 2155 Eagle Drive North Charleston, SC 29419		Site: SOUTHDIVNAVFACENCOM/NTC Orlando 1060 Warehouse Road Orlando, FL 32801				
4. Generator's Phone (843 ) /820-5226		407/895-6714				
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N. A.	A. Transporter's Phone 813/627-0889			
7. Transporter 2 Company Name		8. US EPA ID Number	B. Transporter's Phone			
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N. A.	C. Facility's Phone (863) 357-0111			
11. Waste Shipping Name and Description			12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol	
a. Non Regulated Material (Industrial soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011			001 DT	0.0.0.2.2	T	
b.						
c.						
d.						
D. Additional Descriptions for Materials Listed Above			E. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information  Emergency Response\Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959						
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.						
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 10/21/04		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Andre Ramirez		Signature Andre Ramirez		Month Day Year 10/21/04		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Month Day Year		
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name A. J. Jomer		Signature A. J. Jomer		Month Day Year 12/17/04		

GENERATOR

TRANSPORTER

FACILITY

ORIGINAL - RETURN TO GENERATOR

Gleichenberg Landfill Inc.  
10000 NE 128th Avenue

Okeechobee, FL 34977  
953-357-0111

425, 710

HAULER NAME:

TRKX & OPERATOR

Figure 10.

TIME OUT

DATE \_\_\_\_\_

FLORIDA ENVIRONMENTAL COMMISSION

439

## CONCLUSIONS

01:26:23 001:52:15 02/17/2006

3125 FLORIDA ENVIRONMENTAL  
FLORIDA ENVIRONMENTAL COMPLIANCE

## Conclusions

1.  $\frac{1}{2} \leq \frac{1}{2} \leq \frac{1}{2}$

12

GROSS Lbs: 82,740.02

Price Lbs:	26,960.00
------------	-----------

Net Lbs: 55,760.00

611 Adjustment:	0.00
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Adjusted Lbs: 55,780.00

Adjusted Tons: 27.09

## SOURCES

OTHER INFORMATION

NO SOURCE SPECIAL WASTE  
Destination: OKEECHOBEE LANDFILL  
OCB0311011  
OCB0311011

Check #

OUT OF COUNTY MATERIAL

**MATERIAL CODE/DESCRIPTION**

QUANTITY

## References

132

# AMOUNT

~~SOL \ CONTAMINATED SOIL  
TOTAL FEES  
TOTAL FUEL SURCHARGE  
TOTAL AMOUNT~~

27.95 TONS

8274 Rev 0

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N.A.	Manifest Document No. 1 01281	2. Page 1 of 1	5833
3. Generator's Name and Mailing Address SOUTHDIYNAVFACENGCOM 2155 Eagle Drive North Charleston, SC 29419		Site: SOUTHDIYNAVFACENGCOM/NTE Orlando 1060 Warehouse Road Orlando, FL 32801			
4. Generator's Phone (843 ) /820-5226		407/895-6714			
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N.A.	A. Transporter's Phone 813/627-0889		
7. Transporter 2 Company Name		8. US EPA ID Number	B. Transporter's Phone		
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N.A.	C. Facility's Phone (863) 357-0111		
11. Waste Shipping Name and Description			12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol
a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011			001	DT	0.0.0.2.2 T
b.					
c.					
d.					
D. Additional Descriptions for Materials Listed Above			E. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information  Emergency Response/Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 02/17/04	
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature		Month Day Year 02/17/04	
Printed/Typed Name Nate Snodgrass		Signature		Month Day Year 02/17/04	
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		Month Day Year	
Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name A. Hamer		Signature A. Hamer		Month Day Year 12/7/04	

GENERATOR

TRANSPORTER

FACILITY

ORIGINAL - RETURN TO GENERATOR

DRIVER: PRINT NAME

DRIVER: PLEASE SIGN HERE

"I certify that the waste I delivered to this facility on this date does not contain any regulated hazardous waste as defined by the United States Environmental Protection Agency (EPA), Broward County Department of Natural Resource Protection (DNR) or by the Florida Department of Environmental Protection (DEP); any regulated radioactive materials or regulated concentrations of polychlorinated biphenyls (PCBs); waste from an industrial process or pollution control process; residue/debris from the cleanup of chemical substances; medical waste; batteries; wastes generated from the treatment of a hazardous waste; asbestos (unless prior written approval has been obtained). I agree to remove any non-allowable wastes I bring in to this facility or pay all costs for proper removal and disposal of such wastes, upon request by this facility."

Okeechobee Landfill Inc  
10800 NE 128th Avenue

TICKET NBR

455,326

Okeechobee, FL 34972  
863-357-0111

ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMP	247	ADAM	01:23:25	02:04:03	02/17/2004

3125 FLORIDA ENVIRONMENTAL Inbound Scale #: 2  
FLORIDA ENVIRONMENTAL COMPLIANCE  
GROSS Lbs: 73,800.00  
Tare Lbs: 30,000.00  
Net Lbs: 43,800.00  
All Adjustments: 0.00  
Adjusted Lbs: 43,800.00  
Adjusted Tons: 21.90

SOURCES

OTHER INFORMATION

NO SOURCE SPECIAL WASTE Check #  
Destination: OKEECHOBEE LANDFILL  
OCB0311011  
OCB0311011  
OUT OUT OF COUNTY MATERIAL



MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT
SOL \ CONTAMINATED SOIL	21.90	TONS		
TOTAL FEES				
TOTAL FUEL SURCHARGE				
TOTAL AMOUNT				

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N A . . . . .	Manifest Document No. 0 1 2 6 4	2. Page 1 of 1	5847
3. Generator's Name and Mailing Address SOUTHDIYNAVACENCOM Site: SOUTHDIYNAVACENCOM/NTC Orlando 2155 Eagle Drive 1060 Warehouse Road North Charleston, SC 29419 Orlando, FL 32801 4. Generator's Phone 843 / 820-5226 407/895-6714					
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N A . . . . .		A. Transporter's Phone 813/627-0889	
7. Transporter 2 Company Name		8. US EPA ID Number N A . . . . .		B. Transporter's Phone	
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N A . . . . .		C. Facility's Phone (863) 357-0111	
11. Waste Shipping Name and Description				12. Containers No. Type	13. Total Quantity
a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011				001 DT	0 0 0 2 2 T
b.					
c.					
d.					
D. Additional Descriptions for Materials Listed Above				E. Handling Codes for Wastes Listed Above	
15. Special Handling Instructions and Additional Information  Emergency Response\Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 02 17 04	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Ramon Rodriguez		Signature Ramon Rodriguez		Month Day Year 02 17 04	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name A. Hauer		Signature A. Hauer		Month Day Year 12 17 04	

ORIGINAL - RETURN TO GENERATOR

Rev. 0  
06/14/04

OWNER: PRINT NAME

DRIVER: PLEASE SIGN HERE

I certify that the waste delivered to this facility on this date does not contain any regulated hazardous waste as defined by the United States Environmental Protection Agency (EPA), Broward County Department of Natural Resource Protection (DNRP) or by the Florida Department of Environmental Protection (FDEP); any regulated radioactive materials or regulated concentrations of polychlorinated biphenyls (PCBs); waste from an industrial process or pollution control process; residues/debris from the cleaning of chemical substances; medical waste; batteries; wastes generated from the treatment of hazardous waste; asbestos (unless prior written approval has been obtained). I agree to remove any non allowable wastes lying in to this facility or pay all costs for proper removal and disposal of such wastes, upon request by this facility.

Okeechobee Landfill, Inc.  
18000 THE 12TH AVENUE

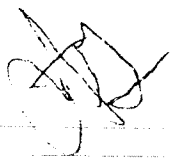
Okeechobee, FL 34973  
888 357 0111

TICKET NBR

455,137

MANUAL  
ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMP	253	ADAM	03:55:11	04:55:47	06/16/2004
3175 FLORIDA ENVIRONMENTAL	Inbound	Scale #:	0		
FLORIDA ENVIRONMENTAL COMPLIANCE		GROSS Lbs:	81,700.00		
		Tare Lbs:	31,920.00		
		Net Lbs:	49,780.00		
		All Adjustment:	0.00		
		Adjusted Lbs:	49,780.00		
		Adjusted Tons:	24.89		



SOURCES	OTHER INFORMATION
NO SOURCE SPECIAL WASTE Destination: OKEECHOBEE LANDFILL OCB0311011 OCB0311011	Check #
OUT	OUT OF COUNTY MATERIAL

MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT
SOL \ CONTAMINATED SOIL	24.89	TONS		
TOTAL FEES				
TOTAL FUEL SURCHARGE				
TOTAL AMOUNT				

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N A . . . . .	Manifest Document No. 0 1 2 6 6	2. Page 1 of 1	5253	
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENGCOM Site: SOUTHDIVNAVFACENGCOM/NTC Orlando 2155 Eagle Drive 1060 Warehouse Road North Charleston, SC 29419 Orlando, FL 32801 Generator's Phone 843 / 820-5226 407/895-6714						
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N A . . . . .		A. Transporter's Phone 813/627-0889		
7. Transporter 2 Company Name		8. US EPA ID Number . . . . .		B. Transporter's Phone		
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N A . . . . .		C. Facility's Phone (863) 357-0111		
11. Waste Shipping Name and Description a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011				12. Containers No.	Type	13. Total Quantity
				14. Unit Wt/Vol		
b. . . . .						
c. . . . .						
d. . . . .						
D. Additional Descriptions for Materials Listed Above				E. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information  Emergency Response\Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959						
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.						
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 10 21 17 10 4		
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature Hernan Garavito		Month Day Year 10 21 17 10 4		
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature [Signature]		Month Day Year 10 21 17 10 4		
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name		Signature [Signature]		Month Day Year 12 10 04		

ORIGINAL - RETURN TO GENERATOR



DRIVER: PRINT NAME

DRIVER: PLEASE SIGN HERE

"I certify that the waste I delivered to this facility on this date does not contain any regulated hazardous waste as defined by the United States Environmental Protection Agency (EPA), the Florida Department of Natural Resource Protection (DNR) or by the Florida Department of Environmental Protection (DEP); any regulated radioactive materials or regulated concentrations of polychlorinated biphenyls (PCB's); waste from an industrial process or pollution control process; residue/debris from the cleanup of chemical substances; medical waste; batteries; wastes generated from the treatment of a hazardous waste; asbestos (unless prior written approval has been obtained). I agree to remove any non-allowable wastes I bring in to this facility at my own cost and proper removal and disposal of such wastes, upon request by this facility."

Okeechobee Landfill Inc.  
10800 NE 128th Avenue

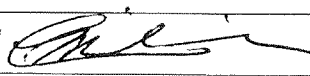
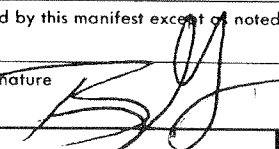
NET WT

455,471

Okeechobee, FL 34972  
863-357-0111

ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMP	553	ADAM	05:25:31	05:40:48	02/18/2002
3125 FLORIDA ENVIRONMENTAL FLORIDA ENVIRONMENTAL COMPLIANCE			Inbound	Scale #:	2
				GROSS Lbs:	84,380.00
				Tare Lbs:	29,600.00
				Net Lbs:	54,780.00
				All Adjustments:	0.00
				Adjusted Lbs:	54,780.00
				Adjusted Tons:	27.39
SOURCES			OTHER INFORMATION		
NO SOURCE SPECIAL WASTE			Check #		
Destination: OKEECHOBEE LANDFILL					
OCB0311011					
OCB0311011					
OUT			OUT OF COUNTY MATERIAL		
MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT	
SOL \ CONTAMINATED SOIL	27.39	TONS			
TOTAL FEES					
TOTAL FUEL SURCHARGE					
TOTAL AMOUNT					

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N. A. . . . .	Manifest Document No. 0.1.2.6.5	2. Page 1 of 1	5553
3. Generator's Name and Mailing Address SOUTH DIV NAV FAC ENG COM      Site: SOUTH DIV NAV FAC ENG COM/NTC Orlando 2155 Eagle Drive      1060 Warehouse Road North Charleston, SC 29419      Orlando, FL 32801 4. Generator's Phone (843) /820-5226      407/895-6714					
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N.A. . . . .		A. Transporter's Phone 813/627-0889	
7. Transporter 2 Company Name		8. US EPA ID Number . . . . .		B. Transporter's Phone	
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N.A. . . . .		C. Facility's Phone (863) 357-0111	
11. Waste Shipping Name and Description  a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None)      PF#OBC #0311011			12. Containers No.	Type	13. Total Quantity
			001	DT	0-0-0-2-2
D. Additional Descriptions for Materials Listed Above			E. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information  Emergency Response\Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312      FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 10/21/04	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name CARLOS A. NIKION		Signature 		Month Day Year 02/17/04	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature 		Month Day Year 12/18/04	

ORIGINAL - RETURN TO GENERATOR

DRIVER: PRINT NAME \_\_\_\_\_

DRIVER: PLEASE SIGN HERE \_\_\_\_\_

"I certify that the waste I delivered to this facility on this date does not contain any regulated hazardous waste as defined by the United States Environmental Protection Agency (EPA), Broward County Department of Natural Resource Protection (DNRP) or by the Florida Department of Environmental Protection (DEP); any regulated radioactive materials or regulated concentrations of polychlorinated biphenyls (PCBs); waste from an industrial process or pollution control process; residue/debris from the cleanup of chemical substances; medical waste; batteries; wastes generated from the treatment of a hazardous waste; asbestos (unless prior written approval has been obtained). I agree to remove any non-allowable wastes I bring in to this facility or pay all costs for proper removal and disposal of such wastes, upon request by this facility."

Okeechobee Landfill  
10800 NE 128th Avenue

TICKET NBR

455,520

Okeechobee, FL 34972  
863-357-0111

ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMP	270	ADAM	06:44:41	07:09:11	02/18/2004

3125 FLORIDA ENVIRONMENTAL Inbound Scale #: 2  
FLORIDA ENVIRONMENTAL COMPLIANCE GROSS Lbs: 92,680.00  
Tare Lbs: 32,280.00  
Net Lbs: 60,400.00  
All Adjustments: 0.00  
Adjusted Lbs: 60,400.00  
Adjusted Tons: 30.20

SOURCES	OTHER INFORMATION
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NO SOURCE SPECIAL WASTE Check #  
Destination: OKEECHOBEE LANDFILL  
OCB0311011  
OCB0311011

OUT OUT OF COUNTY MATERIAL

MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT
SOL \ CONTAMINATED SOIL	30.20	TONS		
TOTAL FEES				
TOTAL FUEL SURCHARGE				
TOTAL AMOUNT				

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N. A. . . . .	Manifest Document No. 0.1.2.6.0	2. Page 1 of 1	5270	
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENGCOM 2155 Eagle Drive North Charleston, SC 29419		Site: SOUTHDIVNAVFACENGCOM/NTC Orlando 1060 Warehouse Road Orlando, FL 32801				
4. Generator's Phone (843 )/820-5226		407/895-6714				
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N. A. . . . .	A. Transporter's Phone 813/627-0889			
7. Transporter 2 Company Name		8. US EPA ID Number . . . . .	B. Transporter's Phone			
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N. A. . . . .	C. Facility's Phone (863) 357-0111			
11. Waste Shipping Name and Description  a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011  b.  c.  d.			12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
			001	DT	0.0.0.2.2	T
D. Additional Descriptions for Materials Listed Above			E. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information  Emergency Response\Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959						
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.						
Printed/Typed Name BARBARA NWOKIKE		Signature <i>Barbara Nwokike</i>		Month Day Year 10/2/17/04		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name <i>Roginaldo Robles</i>		Signature <i>[Signature]</i>		Month Day Year 10/2/17/04		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Month Day Year		
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name		Signature <i>[Signature]</i>		Month Day Year 12/10/04		

ORIGINAL - RETURN TO GENERATOR

Rev. 0  
06/14/04

OR PER: PRINT NAME

OR PER: SIGN HERE

Waste that has been delivered to this facility on this date does not contain any hazardous waste as defined by the United States Environmental Protection Agency (EPA), Florida Department of Natural Resource Protection (DNR) or by the Florida Department of Environmental Protection (FDEP) any regulated radioactive materials or chemicals, concentrations of polychlorinated biphenyls (PCBs) waste from industrial processes or pollution control processes, hazardous waste from the cleanup of chemical substances, medical waste, pesticides, or other materials generated from the treatment, storage and disposal of such wastes, upon request to the facility.

Okeechobee Landfill Inc  
10800 NE 128th Avenue

Okeechobee, FL 34977  
863-357-0111

TICKET NO:

450,572

ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMP	225	ADAM	07:47:06	08:17:00	02/10/200
3125 FLORIDA ENVIRONMENTAL		Inbound		Scale #:	2
FLORIDA ENVIRONMENTAL COMPLIANCE				GROSS Lbs:	87,500.00
				Tare Lbs:	31,400.00
				Net Lbs:	56,100.00
				All Adjustments:	0.00
				Adjusted Lbs:	56,100.00
				Adjusted Tons:	28.00

SOURCES	OTHER INFORMATION
NO SOURCE SPECIAL WASTE	Check #
Destination: OKEECHOBEE LANDFILL	
OCB0311011	
OCB0311011	
OUT	OUT OF COUNTY MATERIAL

MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT
SOL \ CONTAMINATED SOIL	28.05	TONS		
TOTAL FEES				
TOTAL FUEL SURCHARGE				
TOTAL AMOUNT				

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. N. A. . . . .	Manifest Document No. 0. 1. 2. 6. 7	2. Page 1 of 1	S225
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENGCOM Site: SOUTHDIVNAVFACENGCOM/NTC Orlando 2155 Eagle Drive 1060 Warehouse Road North Charleston, SC 29419 Orlando, FL 32801 4. Generator's Phone (843) /820-5226 407/895-6714					
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N.A. . . . .		A. Transporter's Phone 813/627-0889	
7. Transporter 2 Company Name		8. US EPA ID Number . . . . .		B. Transporter's Phone	
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N.A. . . . .		C. Facility's Phone (863) 357-0111	
11. Waste Shipping Name and Description				12. Containers No. Type	13. Total Quantity
a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011				001	DF 0 0 0 2 2 T
b.					
c.					
d.					
D. Additional Descriptions for Materials Listed Above				E. Handling Codes for Wastes Listed Above	
15. Special Handling Instructions and Additional Information  Emergency Response\Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 10.21.710.4	
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name AMADO FRIAS		Signature [Signature]	
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature [Signature]		Month Day Year 8 19 04	

ORIGINAL - RETURN TO GENERATOR

Rev. 0  
06/14/04

DRIVER: PRINT NAME

DRIVER: PLEASE SIGN HERE

"I certify that the waste delivered to this facility on this date does not contain any regulated hazardous waste as defined by the United States Environmental Protection Agency (EPA), Broward County Department of Natural Resources Protection (DNRP) or by the Florida Department of Environmental Protection (FDEP), any regulated radioactive materials or regulated concentrations of polychlorinated biphenyls (PCBs), waste from an industrial process or pollution control process, residue/debris from the cleaning of chemical apparatuses, medical waste, batteries, wastes generated from the treatment of hazardous waste, asbestos (unless prior written approval has been obtained), agree to remove any non-allowable wastes brought to this facility or pay all costs proper removal and disposal of such wastes, upon request by this facility.

Okeechobee Landfill, Inc.  
10800 NW 12TH AVENUE

TICKET NBR

Okeechobee, FL 33411  
863 397-0111

ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMPLIANCE	553	ADAM	00:35:07	00:35:07	02/10/08
3125 FLORIDA ENVIRONMENTAL FLORIDA ENVIRONMENTAL COMPLIANCE		Inbound	Scale #:	3	
			GROSS Lbs:	03,860.00	
			Tare Lbs:	31,920.00	
			Net Lbs:	51,940.00	
			Adj. Adjustments:	0.00	
			Adjusted Lbs:	51,940.00	
			Adjusted Tons:	25.97	

SOURCES

OTHER INFORMATION

NO SOURCE SPECIAL WASTE  
Destination: OKEECHOBEE LANDFILL  
OCB0311011  
OCB0311011

Check #

OUT OUT OF COUNTY MATERIAL

MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT
SOL \ CONTAMINATED SOIL	25.97	TONS		
TOTAL FEES				
TOTAL FUEL SURCHARGE				
TOTAL AMOUNT				

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N A . . . . .	Manifest Document No. 0 1 2 6 8	2. Page 1 of 1	5253	
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENGCOM Site: SOUTHDIVNAVFACENGCOM/NTC Orlando 2155 Eagle Drive 1060 Warehouse Road North Charleston, SC 29419 Orlando, FL 32801 4. Generator's Phone 843 / 820-5226 407/895-6714						
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N A . . . . .		A. Transporter's Phone 813/627-0889		
7. Transporter 2 Company Name		8. US EPA ID Number . . . . .		B. Transporter's Phone		
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N A . . . . .		C. Facility's Phone (863) 357-0111		
11. Waste Shipping Name and Description  a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011  b.  c.  d.			12. Containers		13. Total Quantity	14. Unit Wt/Vol
			No.	Type		
			001	DT	0 0 0 2 2	T
			. .	.	. . . .	
			. .	.	. . . .	
D. Additional Descriptions for Materials Listed Above			E. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information  Emergency Response\Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959						
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.						
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 02 18 04		
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name HERNAN GARAVITO		Signature Hernan Garavito		
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		
				Month Day Year . . .		
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name		Signature [Signature]		Month Day Year 12 18 04		

ORIGINAL - RETURN TO GENERATOR



06/14/04

DRIVER: PRINT NAME

DRIVER: PLEASE SIGN HERE

"I certify that the waste I delivered to this facility on this date does not contain any regulated hazardous waste as defined by the United States Environmental Protection Agency (EPA), Broward County Department of Natural Resource Protection (DNRP) or by the Florida Department of Environmental Protection (DEP); any regulated radioactive materials or regulated concentrations of polychlorinated biphenyls (PCBs); waste from an industrial process or pollution control process; residue/debris from the cleanup of chemical substances; medical waste; batteries; wastes generated from the treatment of a hazardous waste; asbestos (unless prior written approval has been obtained). I agree to remove any non-allowable wastes I bring in to this facility or pay all costs for proper removal and disposal of such wastes, upon request by this facility."

Okeechobee Landfill Inc.  
10800 NE 120th Avenue

Okeechobee, FL 34972  
863-357-0111

TICKET NBR

455,722

ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMP	553	ADAM	11:23:42	11:23:42	02/10/2004
<p>3125 FLORIDA ENVIRONMENTAL Inbound Scale #: 3            FLORIDA ENVIRONMENTAL COMPLIANCE            GROSS Lbs: 92,420.00            Tare Lbs: 29,600.00            Net Lbs: 62,820.00            All Adjustments: 0.00            Adjusted Lbs: 62,820.00            Adjusted Tons: 31.41</p>					
SOURCES			OTHER INFORMATION		
NO SOURCE SPECIAL WASTE Destination: OKEECHOBEE LANDFILL OCB0311011 OCB0311011			Check #  OUT OUT OF COUNTY MATERIAL		
MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT	
SOL \ CONTAMINATED SOIL	31.41	TONS			
TOTAL FEES					
TOTAL FUEL SURCHARGE					
TOTAL AMOUNT					

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N.A.	Manifest Document No. 01273	2. Page 1 of 1	5553
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENGCOM Site: SOUTHDIVNAVFACENGCOM/NTC Orlando 2155 Eagle Drive 1060 Warehouse Road North Charleston, SC 29419 Orlando, FL 32801 4. Generator's Phone (843) /820-5226 407/895-6714					
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N.A.		A. Transporter's Phone 813/627-0889	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter's Phone	
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N.A.		C. Facility's Phone (863) 357-0111	
11. Waste Shipping Name and Description  a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011  b.  c.  d.				12. Containers No.	Type
				001	DT
13. Total Quantity 0 0 0 2 2				14. Unit T	
D. Additional Descriptions for Materials Listed Above				E. Handling Codes for Wastes Listed Above	
15. Special Handling Instructions and Additional Information  Emergency Response/Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 02/18/04	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name Carlos A. Nwike		Signature [Signature]		Month Day Year 02/18/04	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature [Signature]		Month Day Year 12/18/04	

ORIGINAL - RETURN TO GENERATOR

DRIVER: PRINT NAME

DRIVER: PLEASE SIGN HERE

"I certify that the waste I delivered to this facility on this date does not contain any regulated hazardous waste as defined by the United States Environmental Protection Agency (EPA), Broward County Department of Natural Resource Protection (DNRP) or by the Florida Department of Environmental Protection (DEP); any regulated radioactive materials or regulated concentrations of polychlorinated biphenyls (PCBs); waste from an industrial process or pollution control process; residue/debris from the cleanup of chemical substances; medical waste; batteries; wastes generated from the treatment of a hazardous waste; asbestos (unless prior written approval has been obtained). I agree to remove any non-allowable wastes I bring in to this facility or pay all costs for proper removal and disposal of such wastes, upon request by this facility."

Okeechobee Landfill  
10000 NE 128th Avenue

Okeechobee, FL 34972  
863-357-0111

TICKET NBR

455,723

ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMP	230	ADAM	10:10:36	11:24:32	02/18/2004

3125 FLORIDA ENVIRONMENTAL Inbound Scale #: 2  
FLORIDA ENVIRONMENTAL COMPLIANCE  
GROSS Lbs: 76,480.00  
Tare Lbs: 30,300.00  
Net Lbs: 46,180.00  
All Adjustments: 0.00  
Adjusted Lbs: 46,180.00  
Adjusted Tons: 23.09

SOURCES	OTHER INFORMATION
NO SOURCE SPECIAL WASTE Destination: OKEECHOBEE LANDFILL OCB0311011 OCB0311011 OUT OUT OF COUNTY MATERIAL	Check #

MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT
SOL \ CONTAMINATED SOIL	23.09	TONS		
TOTAL FEES				
TOTAL FUEL SURCHARGE				
TOTAL AMOUNT				

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N A . . . . .	Manifest Document No. 01272	2. Page 1 of 1	5230	
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENCOM Site: SOUTHDIVNAVFACENCOM/NTC Orlando 2155 Eagle Drive 1060 Warehouse Road North Charleston, SC 29419 Orlando, FL 32801 Generator's Phone 843 / 820-5226 407/895-6714						
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N A . . . . .		A. Transporter's Phone 813/627-0889		
7. Transporter 2 Company Name .		8. US EPA ID Number . . . . .		B. Transporter's Phone		
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N A . . . . .		C. Facility's Phone (863) 357-0111		
11. Waste Shipping Name and Description				12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol
a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011				001 DT	0 0 0 2 2	T
b.				.	.	.
c.				.	.	.
d.				.	.	.
D. Additional Descriptions for Materials Listed Above				E. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information  Emergency Response Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959						
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.						
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 02/18/04		
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name Jorge L. Fernandez		Signature [Signature]		Month Day Year 02/18/04		
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name		Signature		Month Day Year . . .		
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name		Signature [Signature]		Month Day Year 12/04/04		

ORIGINAL - RETURN TO GENERATOR

DRIVER: PRINT NAME

DRIVER: PLEASE SIGN HERE

Rev. 0

06/14/04

"I certify that the waste I delivered to this facility on this date does not contain any regulated hazardous waste as defined by the United States Environmental Protection Agency (EPA), Broward County Department of Natural Resource Protection (DNRP) or by the Florida Department of Environmental Protection (DEP); any regulated radioactive materials or regulated concentrations of polychlorinated biphenyls (PCBs); waste from an industrial process or pollution control process; residue/debris from the cleanup of chemical substances; medical waste; batteries; wastes generated from the treatment of a hazardous waste; asbestos (unless prior written approval has been obtained). I agree to remove any non-allowable wastes I bring in to this facility or pay all costs for proper removal and disposal of such wastes, upon request by this facility."

Okeechobee Landfill Inc.  
10800 NE 120th Avenue

Okeechobee, FL 34972  
863-357-0111

TICKET NBR

455,734

ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL COMP	259	ADAM	10:12:22	11:33:11	06/10/2004

3125 FLORIDA ENVIRONMENTAL  
FLORIDA ENVIRONMENTAL COMPLIANCE

Inbound Scale #: 2  
GROSS Lbs: 82,300.00  
Tare Lbs: 29,340.00  
Net Lbs: 52,960.00  
All Adjustments: 0.00  
Adjusted Lbs: 52,960.00  
Adjusted Tons: 26.48

## SOURCES

## OTHER INFORMATION

NO SOURCE SPECIAL WASTE  
Destination: OKEECHOBEE LANDFILL  
OCB0311011  
OCB0311011

Check #

OUT OUT OF COUNTY MATERIAL

MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT
SOL \ CONTAMINATED SOIL	26.48	TONS		
TOTAL FEES				
TOTAL FUEL SURCHARGE				
TOTAL AMOUNT				

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N. A . . . . .	Manifest Document No. 01271	2. Page 1 of 1	5259		
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENGCOM      Site: SOUTHDIVNAVFACENGCOM/NTC Orlando 2155 Eagle Drive                      1060 Warehouse Road North Charleston, SC 29419      Orlando, FL 32801 4. Generator's Phone (843) /820-5226      407/895-6714							
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N.A. . . . .		A. Transporter's Phone 813/627-0889			
7. Transporter 2 Company Name		8. US EPA ID Number . . . . .		B. Transporter's Phone			
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N.A. . . . .		C. Facility's Phone (863) 357-0111			
11. Waste Shipping Name and Description  a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None)      PF#OBC #0311011  b.  c.  d.				12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
				001	DT	0 0 0 2 2	T
D. Additional Descriptions for Materials Listed Above				E. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information  <b>Emergency Response/Mail Manifest to:</b> Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312      FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959							
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.							
Printed/Typed Name <b>BARBARA NWOKIKE</b>				Signature <i>Barbara Nwokike</i>		Month Day Year <b>02/18/04</b>	
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name <b>JOSE GONZALEZ</b>				Signature <i>Jose Gonzalez</i>		Month Day Year <b>02/18/04</b>	
18. Transporter 2 Acknowledgement of Receipt of Materials							
Printed/Typed Name				Signature		Month Day Year . . .	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.							
Printed/Typed Name				Signature <i>AF</i>		Month Day Year <b>12/18/04</b>	

ORIGINAL - RETURN TO GENERATOR

DRIVER: PLEASE SIGN HERE

Waste Management  
14000 1st St. N. #100  
Minneapolis, MN 55412

Waste Management  
14000 1st St. N. #100  
Minneapolis, MN 55412

TICKET NBR

140001

06/10/04

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
CLONDA ENVIRONMENTAL CORP	000	JOHN	10:00:00	11:50:00	06/10/04
<p>CLONDA ENVIRONMENTAL CLONDA ENVIRONMENTAL COMPLIANCE</p>			<p>Invoice Date: 06/10/04 GROSS LBS: 61,000.00 Tare LBS: 31,000.00 Net LBS: 30,000.00 Rate Adjustment: 0.00 Adjusted LBS: 30,000.00 Adjusted Total: 25.00</p>		
SOURCES			OTHER INFORMATION		
<p>NO SOURCE SPECIAL WASTE Destination: WEECHOBEE LANDFILL 000001011 0000011011</p>			<p>Check # <i>[Signature]</i></p>		
<p>OUT OF COUNTY MATERIAL</p>					
MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT	
SOIL - CONTAMINATED SOIL	25.00	TONS			
TOTAL FEE:					
TOTAL FUEL SURCHARGE					
TOTAL AMOUNT					

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N. A.	Manifest Document No. 0. 1. 2. 6. 9	2. Page 1 of 1	5255
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENGCOM Site: SOUTHDIVNAVFACENGCOM/NTC Orlando 2155 Eagle Drive 1060 Warehouse Road North Charleston, SC 29419 Orlando, FL 32801 Generator's Phone (843) /820-5226 407/895-6714					
5. Transporter 1 Company Name Soil Tech Distributor, Inc.	6. US EPA ID Number N. A.	A. Transporter's Phone 813/627-0889			
7. Transporter 2 Company Name	8. US EPA ID Number .	B. Transporter's Phone			
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972	10. US EPA ID Number N. A.	C. Facility's Phone (863) 357-0111			
11. Waste Shipping Name and Description		12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol	
a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011		001	DF	0.0.0.2.2	T
b.					
c.					
d.					
D. Additional Descriptions for Materials Listed Above		E. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information  Emergency Response\Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 0. 2. 1. 8. 0. 4	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jose Angulo		Signature Jose Angulo		Month Day Year 10. 2. 1. 8. 0. 4	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature		Month Day Year 12. 1. 0. 4	

ORIGINAL - RETURN TO GENERATOR



DRIVER: PLEASE SIGN HERE

Okeechobee Landfill Inc  
10000 NE 129th Avenue

Okeechobee, FL 33472  
803-357-0111

TICKET NBR

150.845

ORIGINAL

HAULER NAME	TRUCK #	OPERATOR	TIME IN	TIME OUT	DATE
FLORIDA ENVIRONMENTAL CORP	254	ADAM	10:11:15	10:59:05	02/13/2004
<p>WILL FLORIDA ENVIRONMENTAL</p> <p>FLORIDA ENVIRONMENTAL COMPLIANCE</p>			<p>Invoice Scale #: 0</p> <p>GROSS Lbs: 72,760.00</p> <p>Tare Lbs: 30,220.00</p> <p>Net Lbs: 42,540.00</p> <p>All Adjustments: 0.00</p> <p>Adjusted Lbs: 42,540.00</p> <p>Adjusted Tons: 21.27</p>		
<p>SOURCES</p> <p>NO SOURCE SPECIAL WASTE</p> <p>Destination: OKEECHOBEE LANDFILL</p> <p>OCD0311011</p> <p>OCD0311011</p> <p>OUT OUT OF COUNTY MATERIAL</p>			<p>OTHER INFORMATION</p> <p>Check #</p> <p>Waste</p> <p>150.845 01/23/04 10:11:15</p>		
MATERIAL CODE/DESCRIPTION	QUANTITY	MEASURE	RATE	AMOUNT	
SOL \ CONTAMINATED SOIL	21.27	TONS			
TOTAL FEES					
TOTAL FUEL SURCHARGE					
TOTAL AMOUNT					

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. N. A. . . . .	Manifest Document No. 0.1.2.7.0	2. Page 1 of 1	6254
3. Generator's Name and Mailing Address SOUTHDIVNAVFACENGCOM Site: SOUTHDIVNAVFACENGCOM/NTC Orlando 2155 Eagle Drive 1060 Warehouse Road North Charleston, SC 29419 Orlando, FL 32801 Generator's Phone 843 / 820-5226 407/895-6714					
5. Transporter 1 Company Name Soil Tech Distributor, Inc.		6. US EPA ID Number N. A. . . . .		A. Transporter's Phone 813/627-0889	
7. Transporter 2 Company Name		8. US EPA ID Number . . . . .		B. Transporter's Phone	
9. Designated Facility Name and Site Address Okeechobee Landfill, Inc. 10800 NE 128th Avenue Okeechobee, FL 34972		10. US EPA ID Number N. A. . . . .		C. Facility's Phone (863) 357-0111	
11. Waste Shipping Name and Description			12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol
a. Non Regulated Material (Industrial Soils) RCRA & D.O.T. Non Hazardous (None) PF#OBC #0311011			001	DT	0 0 0 2 2 T
b.			.	.	.
c.			.	.	.
d.			.	.	.
D. Additional Descriptions for Materials Listed Above			E. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information  Emergency Response/Mail Manifest to: Florida Environmental Compliance Corporation 2418 Silver Star Road Orlando, FL 32804-3312 FECC Cust#1759 FECC PR# 031010 Technical Contact: Barbara Nwokike / Nate Snodgrass Phone 843/820-5566 / 407/402-1959					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Printed/Typed Name BARBARA NWOKIKE		Signature Barbara Nwokike		Month Day Year 08/18/04	
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name Rafael P. Zaito		Signature Rafael P. Zaito	
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature B. J.		Month Day Year 2/18/04	

ORIGINAL - RETURN TO GENERATOR

# **Attachment C**

## **Certificate of Disposal**



**OKEECHOBEE LANDFILL, INC.**  
A WASTE MANAGEMENT COMPANY

10800 NE 128th Ave.  
Okeechobee, Florida 34972  
(941) 357-0111  
(941) 357-0772 Fax

## CERTIFICATE OF DISPOSAL

Okeechobee Landfill, Inc. disposed of the following material at its Okeechobee Berman Road Landfill located in Okeechobee County, Florida:

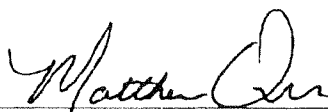
Date: 03/29/04

Waste: Contaminated Soil

Approval #: OCB0311011

Tonnage: 372.35 Tons

Received From: Florida Environmental Compliance/ South Naval Facility

  
Matthew Orr, District Manager

March 29, 2004

\_\_\_\_\_  
Date

2/24/2004

## Online Report

Page 1 of 1

## 001 Okeechobee Landfill Inc

2/1/2004 Through 2/24/2004

<u>Ticket / Load</u>	<u>User</u>	<u>Hauler</u>	<u>Truck</u>	<u>Customer</u>	<u>Source</u>	<u>Product</u>	<u>Profile</u>	<u>Date</u>	<u>TimeIn</u>	<u>Total TimeOut</u>	<u>Gross</u>	<u>Tare</u>	<u>Net</u>
001Okeechobee Landfill Inc													
455304	ADAM	3125	209	3125	N	SOL	OCB0311011	02/17/2004	12:59 PM	1:37 PM	45.69	14.66	31.03
455313	ADAM	3125	235	3125	N	SOL	OCB0311011	02/17/2004	1:25 PM	1:47 PM	42.67	15.19	27.48
455318	ADAM	3125	233	3125	N	SOL	OCB0311011	02/17/2004	1:26 PM	1:52 PM	41.37	13.48	27.89
455326	ADAM	3125	247	3125	N	SOL	OCB0311011	02/17/2004	1:23 PM	2:04 PM	36.90	15.00	21.90
455437	ADAM	3125	253	3125	N	SOL	OCB0311011	02/18/2004	3:55 AM	3:55 AM	40.85	15.96	24.89
455471	ADAM	3125	553	3125	N	SOL	OCB0311011	02/18/2004	5:25 AM	5:40 AM	42.19	14.80	27.39
455520	ADAM	3125	270	3125	N	SOL	OCB0311011	02/18/2004	6:44 AM	7:09 AM	46.34	16.14	30.20
455573	ADAM	3125	225	3125	N	SOL	OCB0311011	02/18/2004	7:47 AM	8:17 AM	43.75	15.70	28.05
455639	ADAM	3125	253	3125	N	SOL	OCB0311011	02/18/2004	9:35 AM	9:35 AM	41.93	15.96	25.97
455722	ADAM	3125	553	3125	N	SOL	OCB0311011	02/18/2004	11:23 AM	11:23 AM	46.21	14.80	31.41
455723	ADAM	3125	230	3125	N	SOL	OCB0311011	02/18/2004	10:10 AM	11:24 AM	38.24	15.15	23.09
455734	ADAM	3125	259	3125	N	SOL	OCB0311011	02/18/2004	10:12 AM	11:33 AM	41.15	14.67	26.48
455839	ADAM	3125	255	3125	N	SOL	OCB0311011	02/18/2004	10:09 AM	1:51 PM	40.96	15.66	25.30
455845	ADAM	3125	254	3125	N	SOL	OCB0311011	02/18/2004	10:11 AM	1:59 PM	36.38	15.11	21.27
001 Total Tickets 14 Total Loads 14											Total Tons	372.35	

In Tons : 372.35

Out Tons : 0.00

Total In&amp;Out Tons : 372.35

471003006

D-70

CTO 0281

Rev. 0  
06/14/04

## **Attachment D**

### **Backfill Test Results**


## Chain of Custody

-0311065

471003006

D-72

CTO 0281

Project Manager: <u>Gordon Kirkland</u>		 Southern Research Laboratories, Inc. 3477 Parkway Center Court Orlando, Florida 32808 (407) 522-7100 Fax: (407) 522-7043 Toll Free 1 (888) 420-TEST		Page <u>1-1</u> of	
Company: <u>F.E.C.C.</u>				Project Name: <u>Naval Training Center</u>	
Address: <u>2418 Silver Star Rd.</u>				Project Location: <u>East Colonial / Magazine Rd</u>	
City, State, Zip: <u>Orlando, FL 32804</u>					
Phone: <u>407-296-9995</u> Fax: <u>407-296-9125</u>					
Sampled by (Print Name(s)) / Affiliation: <u>Don Schill F.E.C.C.</u>				Preservatives (see codes)	
Sampler(s) Signature(s): <u>Don Schill</u>				Analyses Requested	
Sample Identification		Sampled		Total Number of Containers	
		Date:	Time:	Grab or Composite	Matrix (see codes)
1	DW-1	11/20/03	11:42		So
	Trip Blank	11/19/03	16:20		DI
TAL Metals =		Al / Sb / As / Ba / Be / Cd / Ca / Cr / Co / Cu / Pb / Fe /			
		Mg / Mn / Mo / Hg / Ni / K / Se / Ag / Na /			
		Ti / V / Zn			
Shipment Method		Relinquished by: Affiliation:		Date:	Time:
Out:	Via:	<u>Don Schill F.E.C.C.</u>		<u>11/20/03</u>	<u>11:20</u>
Returned:	Via:	<u>Don Schill F.E.C.C.</u>		<u>11/20/03</u>	<u>15:02</u>
Additional Comments:					
Cooler No(s) / Temperature(s) (°C):		Sampling Kit No.:		Equipment ID No.:	
<u>261 15°C L4</u>		<u>1362</u>			
Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) HW = Potential Haz Waste O = Other (Specify: _____) Preservative Codes: H = Hydrochloric Acid & Ice I = Ice Only N = Nitric Acid & Ice S = Sulfuric Acid & Ice X = Sodium Hydroxide & Ice O = Other (Specify: _____)					

HBV: 06/14/04

Thank you **Mr. Gordon Kirkland** for the opportunity to be of service to you and your company; we **Sincerely Appreciate Your Business**. SRL certifies this data was produced in accordance with NELAC Standards.

Client Name: <b>Florida Environmental Compliance</b>	Date(s) Collected: 11/20/03
Contact Name: <b>Gordon Kirkland</b>	Date Received: 11/20/03
Project Name: Naval Training Center	Time Received: 15:02
Project Number: NA	Date Reported : 12/03/03
Phone Number: (407) 296-9995	Date Facsimiled : 12/03/03
Fax Number: (407) 296-9125	SRL Work Order # 03-11065

SRL WO #	Clients #	Matrix	Analysis Requested
11789	DW-1	Solid	EPA 8260~LL/8270/8081-8082/ 8151/pH/Al/Sb/As//Ba/Be/Cd/Ca/Cr/ Co/Cu/Pb/Fe/Mg/Mn/Mo/Hg/Ni/K/ Se/Ag/Na/Tl/V/Zn

**DRAFT**

---

Sherri Payne  
Vice President & Quality Assurance Officer  
Southern Research Laboratories, Inc.

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Page 1 of 7



**Gordon Kirkland**

Florida Environmental Compliance Corporation

2418 Silver Star Road

Orlando, Florida 32804 (407) 296-9995

Project Number/Project Name

**Naval Training Center****East Colonial/Maguire Rd.****Client ID# : DW-1**

SRL (Lab) ID# : 11789

Date Collected : 11/20/03 11:42

PARAMETER	RESULT	UNITS	METHOD	DET. LIMIT	DATE PREPARED	DATE ANALYZED	LAB FDOH
8260B-LL Volatile Organics in Soil & Waste by GC/MS			MEDF	1			
Acetone	100	U ug/Kg	5035/8260B	100	12/01/03	12/01/03	E86349
Acrolein	100	U ug/Kg	5035/8260B	100	12/01/03	12/01/03	E86349
Acrylonitrile	100	U ug/Kg	5035/8260B	100	12/01/03	12/01/03	E86349
Dichlorodifluoromethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Chloromethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Vinyl Chloride	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Bromomethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Chloroethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Trichlorofluoromethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Methyl Ethyl Ketone	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,1-Dichloroethene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Methylene Chloride	5	U ug/Kg	5035/8260B	5	12/01/03	12/01/03	E86349
Trans-1,2-Dichloroethene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Methyl tert-Butyl Ether	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,1-Dichloroethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
2,2-Dichloropropane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Cis-1,2-Dichloroethene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Chloroform	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Bromochloromethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,1,1-Trichloroethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,1-Dichloropropene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Carbon tetrachloride	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Benzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,2-Dichloroethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Trichloroethene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,2-Dichloropropane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Bromodichloromethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Dibromomethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Cis-1,3-Dichloropropene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Toluene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Trans-1,3-Dichloropropene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,1,2-Trichloroethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,3-Dichloropropane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Tetrachloroethene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Dibromochloromethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,2-Dibromoethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Chlorobenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Bromobenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Ethylbenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,1,1,2-Tetrachloroethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349

U = indicates the compound was analyzed for, but not detected. The numerical value preceding the "U" is the limit of detection for that compound based upon the dilution. **MEDF** = Matrix Effect Dilution Factor.

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Southern Research Laboratories, Inc.  
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Rev. 0  
NELAP Certified 06/14/04  
FDOH Cert #: E83484  
SRL Lab Ref #: 03-11065  
Received Date: 11/20/03

Gordon Kirkland  
Florida Environmental Compliance Corporation  
2418 Silver Star Road  
Orlando, Florida 32804 (407) 296-9995

Project Number/Project Name  
Naval Training Center  
East Colonial/Maguire Rd.

Client ID# : DW-1  
SRL (Lab) ID# : 11789  
Date Collected : 11/20/03 11.42

PARAMETER	RESULT	UNITS	METHOD	DET. LIMIT	DATE PREPARED	DATE ANALYZED	LAB FDOH
8260B-I.L. Volatile Organics in Soil & Waste by GC/MS (cont)							
			MEDF	1			
m- & p-Xylene	2	ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
o-Xylene	1	ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Styrene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Isopropylbenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Bromoform	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,1,2,2-Tetrachloroethane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,2,3-Trichloropropane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,3,5-Trimethylbenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
2-Chlorotoluene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
4-Chlorotoluene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
tert-Butylbenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,2,4-Trimethylbenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
sec-Butylbenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
p-Isopropyltoluene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,3-Dichlorobenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,4-Dichlorobenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
n-Butylbenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
n-Propylbenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,2-Dichlorobenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,2-Dibromo-3-Chloropropane	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,2,4-Trichlorobenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Hexachlorobutadiene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
Naphthalene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349
1,2,3-Trichlorobenzene	1	U ug/Kg	5035/8260B	1	12/01/03	12/01/03	E86349

U = indicates the compound was analyzed for, but not detected. The numerical value preceding the "U" is the limit of detection for that compound based upon the dilution. MEDF = Matrix Effect Dilution Factor.

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Rev. 0  
NELAP Certified 06/14/04  
FDOH Cert #: E83484  
SRL Lab Ref #: 03-11065  
Received Date: 11/20/03

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2418 Silver Star Road  
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Project Number/Project Name  
Naval Training Center  
East Colonial/Maguire Rd.

Client ID#: DW-1  
SRL (Lab) ID#: 11789  
Date Collected: 11/20/03 11:42

PARAMETER	RESULT	UNITS	METHOD	DET. LIMIT	DATE PREPARED	DATE ANALYZED	LAB FDOH
8270C Semivolatile Organic Compounds in Soil & Waste by GC-MS							
			MEDF	1			
N-Nitrosodimethylamine	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Phenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Bis (2-Chloroethyl) Ether	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2-Chlorophenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
1,3-Dichlorobenzene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
1,4-Dichlorobenzene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Benzyl Alcohol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
1,2-Dichlorobenzene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Bis (2-Chloroisopropyl) Ether	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
N-Nitrosodi-N-Propylamine	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Hexachloroethane	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Nitrobenzene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Isophorone	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2-Nitrophenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2,4-Dimethylphenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Bis (2-Chloroethoxy) methane	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2,4-Dichlorophenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
1,2,3-Trichlorobenzene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
1,2,4-Trichlorobenzene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Naphthalene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Hexachlorobutadiene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
4-Chloro-3-Methyl Phenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
1-Methylnaphthalene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2-Methylnaphthalene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2-Methylphenol (o-cresol)	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Hexachlorocyclopentadiene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
3-Methyl-Phenol (m-cresol)	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
4-Methylphenol (p-cresol)	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2,3,6-Trichlorophenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2,4,5-Trichlorophenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2,4,6-Trichlorophenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2-Chloronaphthalene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Dimethyl Phthalate	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Acenaphthylene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2,6-Dinitrotoluene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Acenaphthene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2,4-Dinitrotoluene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
4-Nitrophenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Diethyl Phthalate	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Fluorene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349

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NELAP Certified  
FDOH Cert #: E83484  
SRL Lab Ref #: 03-11065  
Received Date : 11/20/03

Gordon Kirkland  
Florida Environmental Compliance Corporation  
2418 Silver Star Road  
Orlando, Florida 32804 (407) 296-9995

Project Number/Project Name  
Naval Training Center  
East Colonial/Maguire Rd.

Client ID# : DW-1  
SRL (Lab) ID# : 11789  
Date Collected : 11/20/03 11.42

PARAMETER	RESULT	UNITS	METHOD	DET. LIMIT	DATE PREPARED	DATE ANALYZED	LAB FDOH
8270C Semivolatile Organic Compounds in Soil & Waste by GC-MS (cont)							
			MEDF	1			
4-Chlorophenyl Phenyl Ether	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
4,6-Dinitro-2-Methylphenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
N-Nitrosodiphenylamine	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
4-Bromophenyl Phenyl Ether	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Hexachlorobenzene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Pentachlorophenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Phenanthrene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Anthracene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Di-n-Butyl Phthalate	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Fluoranthene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Benzidine	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Pyrene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Butyl Benzyl Phthalate	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Benzo (a) Anthracene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
3,3-Dichlorobenzidine	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Chrysene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Bis (2-Ethylhexyl) Phthalate	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Di-n-Octyl Phthalate	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Benzo (b) Fluoranthene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Benzo (k) Fluoranthene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Benzo (a) Pyrene	0.10	U mg/Kg	3550/8270C	0.10	11/22/03	11/23/03	E86349
Indeno (1,2,3-cd) Pyrene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Dibenzo (a,h) Anthracene	0.10	U mg/Kg	3550/8270C	0.10	11/22/03	11/23/03	E86349
Benzo (g,h,i) Perylene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Bis-2-Ethylhexyl Adipate	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Azobenzene	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Methoxychlor	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Benzoic Acid	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Aniline	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
4-Chloroaniline	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Dibenzofuran	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2-Nitroaniline	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
3-Nitroaniline	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
4-Nitroaniline	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Carbazole	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2,6-Dichlorophenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
2,3,4,6-Tetrachlorophenol	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349
Pyridine	0.33	U mg/Kg	3550/8270C	0.33	11/22/03	11/23/03	E86349

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**Gordon Kirkland**

Florida Environmental Compliance Corporation

2418 Silver Star Road

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Project Number/Project Name

Naval Training Center

East Colonial/Maguire Rd.

Client ID# : DW-1

SRL (Lab) ID# : 11789

Date Collected : 11/20/03 11:42

PARAMETER	RESULT	UNITS	METHOD	DET. LIMIT	DATE PREPARED	DATE ANALYZED	LAB FDOH
Chlorinated Pesticides & PCBs in Soil & Waste by GC				MEDF			
a-BHC	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
b-BHC	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
g-BHC (Lindane)	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
d-BHC	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
Heptachlor	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
Aldrin	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
Heptachlor Epoxide	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
Endosulfan I	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
Dieldrin	20.0	U ug/Kg	3550/8081A-82	20.0	11/22/03	11/23/03	E86349
4,4-DDE	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
Endrin	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
Endosulfan II	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
4,4-DDD	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
Endrin Aldehyde	20.0	U ug/Kg	3550/8081A-82	20.0	11/22/03	11/23/03	E86349
Endosulfan Sulfate	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
4,4-DDT	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
Methoxychlor	180	U ug/Kg	3550/8081A-82	180	11/22/03	11/23/03	E86349
Arochlor 1016	20.0	U ug/Kg	3550/8081A-82	20.0	11/22/03	11/23/03	E86349
Arochlor 1221	20.0	U ug/Kg	3550/8081A-82	20.0	11/22/03	11/23/03	E86349
Arochlor 1232	20.0	U ug/Kg	3550/8081A-82	20.0	11/22/03	11/23/03	E86349
Arochlor 1242	20.0	U ug/Kg	3550/8081A-82	20.0	11/22/03	11/23/03	E86349
Arochlor 1248	20.0	U ug/Kg	3550/8081A-82	20.0	11/22/03	11/23/03	E86349
Arochlor 1254	20.0	U ug/Kg	3550/8081A-82	20.0	11/22/03	11/23/03	E86349
Arochlor 1260	20.0	U ug/Kg	3550/8081A-82	20.0	11/22/03	11/23/03	E86349
Toxaphene	250	U ug/Kg	3550/8081A-82	250	11/22/03	11/23/03	E86349
Chlordane	10.0	U ug/Kg	3550/8081A-82	10.0	11/22/03	11/23/03	E86349
Chlorophenoxy Herbicides in Soil & Waste by GC				MEDF			
Dalapon	1160	U ug/Kg	8151A	1160	11/25/03	11/26/03	E86349
Dicamba	54.0	U ug/Kg	8151A	54.0	11/25/03	11/26/03	E86349
2,4-D	240	U ug/Kg	8151A	240	11/25/03	11/26/03	E86349
Pentachlorophenol	240	U ug/Kg	8151A	240	11/25/03	11/26/03	E86349
2,4,5-TP (Silvex)	34.0	U ug/Kg	8151A	34.0	11/25/03	11/26/03	E86349
2,4,5-T	30.0	U ug/Kg	8151A	30.0	11/25/03	11/26/03	E86349
Dinoseb	14.0	U ug/Kg	8151A	14.0	11/25/03	11/26/03	E86349
Picloram	240	U ug/Kg	8151A	240	11/25/03	11/26/03	E86349
Dichloroprop	100	U ug/Kg	8151A	100	11/25/03	11/26/03	E86349
2,4-DB	100	U ug/Kg	8151A	100	11/25/03	11/26/03	E86349
MCPP	660	U ug/Kg	8151A	660	11/25/03	11/26/03	E86349
MCPA	430	U ug/Kg	8151A	430	11/25/03	11/26/03	E86349

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Page 6 of 7

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Project Number/Project Name

Naval Training Center

East Colonial/Maguire Rd.

**Client ID# : DW-1**

SRL (Lab) ID# : 11789

Date Collected : 11/20/03 11:42

PARAMETER	RESULT	UNITS	METHOD	DET. LIMIT	DATE PREPARED	DATE ANALYZED	LAB FDOH
pH	5.6	Units	9045C	1.0	11/24/03	11/24/03	E86349
Aluminum (Al)	46.2	mg/Kg	7020	1.0	11/20/03	11/24/03	E86349
Antimony (Sb)	1.0	U mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Arsenic (As)	0.70	U mg/Kg	3050/6010B	0.70	11/24/03	11/25/03	E86349
Barium (Ba)	12.1	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Beryllium (Be)	1.0	U mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Cadmium (Cd)	1.0	U mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Calcium (Ca)	86.9	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Chromium (Cr)	4.5	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Cobalt (Co)	1.0	U mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Copper (Cu)	1.1	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Lead (Pb)	5.2	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Iron (Fe)	320	mg/Kg	3050/7380	1.0	11/24/03	11/25/03	E86349
Magnesium (Mg)	67.1	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Manganese (Mn)	5.7	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Mercury (Hg) (Cold Vapor AA)	0.10	U mg/Kg	7471A	0.10	11/21/03	11/24/03	E86349
Molybdenum (Mo)	1.4	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Nickel (Ni)	2.2	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Potassium (K)	10.0	U mg/Kg	3050/7610	10.0	11/21/03	11/25/03	E86349
Selenium (Se)	1.1	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Silver (Ag)	1.0	U mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Sodium (Na)	162	mg/Kg	3050/7770	10.0	11/24/03	11/25/03	E86349
Thallium (Tl)	1.0	U mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Vanadium (V)	3.4	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349
Zinc (Zn)	4.2	mg/Kg	3050/6010B	1.0	11/24/03	11/25/03	E86349

U = indicates the compound was analyzed for, but not detected. The numerical value preceding the "U" is the limit of detection for that compound based upon the dilution. MEDF = Matrix Effect Dilution Factor.

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